



# NEW YORK STATE JOURNAL *of* MEDICINE

---

## *Editorial*

---

### Salutatory

Our publication herewith appears in its new form. The Society will hereafter publish its organ of expression. *Vous l'avez voulu*

We greet our new obligations with emotions of deep responsibility. Hoping truly to express the opinions of organized medicine in this state, our endeavors will be to so mold public opinion that it will better comprehend its own interests in medical matters. For if it is true that the society which medicine serves usually molds the form which the practice of medicine takes, so it must follow that society itself needs authoritative opinion and advice before making vital decisions on the manner and the way it wants medical care delivered to it. We represent neither the methods, nor hold to the concepts of a trade union, nor of a guild. While it is axiomatic that the doctor must live, and from the exercise of those privileges which the practice of medicine imposes, he must maintain social and economic standards equal to those of the majority of the people he serves, yet the doctor's personal economic status is not our first and paramount concern. The public welfare is our primary concern.

Our endeavor will be that these, our pages, shall carry the newly discovered, the freshly devised, and the clinically proved advances in medicine. We envisage that our pages may become an open forum where differing viewpoints will be presented, not so much with the heat of debate as with the illuminating suffusion of light from the scholar's lamp. Constructive criticism is solicited. We desire nothing so much, in this our work, as that our readers shall take us into their confidence and write us that which we shall want to publish. No topic is tabooed nor do we espouse any partisanship.

We bespeak indulgence during our formative stage. We will grow, with your help, into a journal of opinion not alone on matters of scientific import, but also on the casual happenings in the environments of medical practice.

To the professions allied to medicine we offer our pages too. For what vitally affects them concerns us also—all to the end that the



people of our state will be better served, have better doctors, finer hospitals, the best possible dental and nursing care, and they—our people—enjoy the pursuit of happiness in healthier surroundings and in fine, robust health

### Many-Sided Truth

“The British Experience” as described by Douglass W Orr and Jean Walker Orr in their book, *Health Insurance with Medical Care*, is at marked variance with the experience of A G P , a British physician, as recorded in a volume entitled *This Panel Business* A G P , although strongly in favor of the principle of National Health Insurance, sees many serious flaws in its operation The Orrs, who were sent to Great Britain by a group in favor of compulsory insurance here, find general satisfaction with this system among all classes of the population, including the medical profession Truth is indeed in the eye of the beholder!

The Orrs find little to criticize in the quality of service rendered under National Health Insurance They discount the charge that examinations are hurried and superficial and stress the advantage of early recourse to medical care To A G P any such advantage is lost because of the fact that “panel practice as it is known today is medical practice in a desperate hurry ” In a typical morning’s panel work, he complains, only about four minutes can be allotted to each patient often there is not even time for the latter to undress It is a generally admitted fact that the preventive potentialities attributed to National Health Insurance have so far failed to materialize

The Orrs refer frequently to the financial benefits to the medical profession from National Health Insurance One or two doctors whom they cite earn \$9,000 and \$12,000 a year, live on small estates, and have two cars A maximum panel of 2,500 would bring in approximately \$5,000 a year, leaving \$4,000 to \$8,000 more to be earned by these fortunate physicians in private practice And yet these men, with 2,500 panel patients and an additional private practice bringing in \$4,000 to \$8,000 are not too rushed to give careful service, if the Orrs’ observations are to be accepted without question

Fortunately or unfortunately, their cases are hardly typical, according to A G P A panel with the theoretical average of 976 insured persons brings in less than \$2,000 a year, out of which the practitioner must pay his rent and all other expenses He is, of course, permitted to treat private patients too—if he can get any—but it must be born in mind that three-eighths of England’s population is insured The dependents of this group constitute a slightly

larger fraction, many if not most of whom apply to public agencies for medical care. About 32 per cent of the population is entirely on relief, leaving a very small class from which additional private practice can be obtained.

If National Health Insurance were extended to dependents, as the Orrs say most people desire, the additional capitation fee would be very low. A G P estimates that coverage of the entire population would yield physicians an average net income of no more than \$1,775—hardly a fair return on the long and costly preparation for medical practice and the hard work and heavy responsibility it imposes.

The Orrs accept the viewpoint that National Health Insurance has improved the lot of labor in Great Britain but they cite no concrete supporting proofs. Perhaps the reason for this is, as A G P asserts, that there are no convincing statistics to show that twenty-five years of compulsory insurance has improved the health of British workers.

### Doctors Agree

The recent meeting of the New York State Temporary Commission to Formulate a Health Program disclosed almost complete agreement among the medical men who testified. Both public health officers and representatives of organized medicine endorsed voluntary health insurance as a means of supplying low-cost medical care to the medically indigent. Both public health officers and the spokesmen of private practice agreed that compulsory insurance is unnecessary and would jeopardize the standards of medical care.

The arguments of organized medicine against obligatory prepayment are too well known to the profession to require repetition here. It is significant to find a similar point of view in public health officers in close daily contact with the needs of the poor and known for their progressivism.

Dr S S Goldwater, Commissioner of Hospitals of the City of New York, called attention to a fact which is frequently ignored by advocates of compulsory sickness insurance. Speaking for his own community, he asserted that medical service is "more readily accessible to the underprivileged than proper shelter, health-sustaining food, suitable clothing and facilities for recreation." This is true almost everywhere. "For the low-income, not quite indigent group unrealized benefits are available through voluntary insurance which should be developed further. Independent self-help probably suits the American character better than dependence on government aid."

Similarly State Health Commissioner Edward F Godfrey agreed that "some kind of insurance is desirable" but there is no necessity for compulsory insurance. It cannot be overemphasized that these men know both the needs of the poor and the available machinery to supply them. They do not speak from sentiment or theory but from knowledge.

In view of the unanimity of opinion among responsible public health officers and the representatives of private practice, the State Temporary Commission must hesitate to throw its influence behind compulsory sickness insurance. This system is like the Old Man of the Sea. Once it gets a hold on the taxpayer, it bears down on him even more heavily and is almost impossible to dislodge. The benefits, European experience has shown, are incommensurate with the heavy burden.

### **The Bronx County Medical Society's Twenty-Fifth Anniversary A Tribute to Dr. Nathan B. Van Etten**

The Medical Society of the Bronx, on January 7, will celebrate its twenty-fifth anniversary with a dinner at the Waldorf-Astoria. The event takes the form of a tribute of esteem to Dr. Nathan B. Van Etten—the outstanding leader in organized medicine of that county.

Dr. Van Etten was the first president of the newly organized Medical Society of the Bronx, when it separated from the Medical Society of the County of New York twenty-five years ago and became a component unit of the State Society. Since that time Dr. Van Etten has continuously been a leader in organized medicine. As President of the State Society, as editor of this JOURNAL, and more recently, as Speaker of the House of Delegates of the A M A, his face and figure are familiar to us all. His wisdom in council, his poise and philosophic calm in debate, as well as his tolerance for the inferior intellect and man of smaller stature, brought him respect from everyone and love from many.

During his whole career, he has practiced medicine in the high traditions of his calling, and in his public appearances and addresses he consistently championed the practicing physician and the important rôle he plays in the health of the community.

To the many voices which will bring deserved tributes to Dr. Van Etten, we would add ours. We delight to say to sentient ears the well merited word of praise, admiration, and commendation. In the years which are still before him, we look to this wise counselor for such guidance as a wisdom born of years of public officialdom and private medical practice has endowed him. Whether he

holds public office or not, Dr Van Etten remains a valuable force, and a potent factor in our Society. Congratulations!

### A Tribute to Dr Ellsworth Eliot, Jr

The painter Sargent, hearing a lady commenting on one of his canvasses and doubting the authenticity of the colors with which he had painted some cows, facetiously replied to her remark that she had never seen cows of such color, "Well, wouldn't you like to have seen some!" In life things often happen which fulfill so useful and important a rôle that had they not happened they surely would have had to be invented. This is also true in medicine. The evolution of progress creates so pressing a need that, if authoritative sources do not respond to the urge, some one arises and creates the very situation which supplies the needs.

We are prompted to these observations because of a small book which recently came to hand from the pen of Dr Howard Fox, now president of the Medical Society of the County of New York, a distinguished son of a former president of our State Society. This book, entitled *Eliot's Quiz*, is a tribute to an outstanding teacher of medicine in New York—Dr Ellsworth Eliot, Jr.

Medicine was not taught in Eliot's day. Yet the necessity for teaching medicine was being keenly felt. Dr Eliot characterizes the teaching of his day as both elementary and rudimentary. The instruction was given chiefly by didactic lectures and weekly clinics. There were neither conferences nor obligatory recitations. At the college clinics the student actually was little more than a spectator. Attendance at clinics and lectures was voluntary.

Strange as it may seem, it was not the knowledge of its shortcomings on the part of the college authorities, nor the desire to produce better doctors which became the inciting motive which wrought changes in the medical educational system, but rather the urge of the student body to supplement the paucity of recitations and classroom instruction that resulted in the establishment of the Quiz Classes. In the student body those whose ambitions led them particularly to seek positions on the interne staffs of great hospitals were the real urge which not only made necessary this supplemental instruction, but was the most important factor in elevating the standards of medical education in the last generation.

There is an old Hebraic legend which tells that King Solomon, desiring to know the one most responsible for the building of the Temple, asked claimants for this distinction to state the basis of their claims when applying for his regal honors. Masons, carpenters, decorators, and artisans of all types and descriptions applied, and

each stressed the importance of his own particular work in the building of the Temple. A hitherto inconspicuous man also pressed his claim. He demanded the supreme honor, because he said that he made the *tools* with which all the others worked. Without tools their work would have been impossible. Solomon, in his wisdom, granted this man the much desired honors.

Dr. Eliot made the medical tools with which the current generation of physicians works. He made teachers of medicine of the current generation. Quietly and inconspicuously he worked. He attracted talent, taught it, guided it, and prepared it to teach others in turn. Look at the list. Six deans of medical schools, 112 professorships in medicine, 111 instructors, 100 visiting physicians, and 104 visiting surgeons, forty-four visiting specialists, and 161 consultants to medical institutions. This, besides two Directors of the New York Academy of Medicine, in addition to other important positions his students hold! One cannot scan such a list without according high honor to this teacher of teachers. This is a man who truly left his imprint on American Medicine. We are proud of the record, and hope that Dr. Eliot may continue to enjoy the evening of life in quiet contemplation of his fine efforts and enjoy watching the spread of his influence no less than the continued love and admiration of his students.

### Modern Antiluetic Therapy

The problem of syphilis control presents many ramifications. By no means has a successful solution for its complete eradication been put into effect despite state acceptance of the responsibility of guarding its citizens against the disease. Prophylaxis, and by that we mean prophylaxis on the part of the individual, has not been taught as intensively as it should be. Stress has been laid more on the early recognition of syphilis and the adequate treatment of the malady, and, until such time as preventive measures will have become common knowledge, these are our only potent weapons to combat its spread, reduce its incidence, and decrease organic lesions.

With the exception of those specially skilled in the management of syphilis, the treatment ordinarily administered is more or less haphazard in the hands of the average practitioner. True, antiluetic remedies are given, according to some formula or regime, and the patient's serology is checked at intervals, but rarely is treatment for a patient individualized so that the maximum benefit can be obtained. The series of articles by Dr. A. Benson Cannon, the first of which appears in this issue, is therefore a timely contribution. It represents a synopsis of the methods he has found from his own ex-

perience to be the most effective in the treatment of syphilis, and which were developed in the Department of Dermatology of the Vanderbilt Clinic

From the numerous factors which he considers, we call attention to but a few. Continuous treatment is far superior to intermittent treatment, since it keeps the patient at all times under the influence of an antiluetic drug. "Of the arsphenamine series, the one which has maintained its superiority so far against all new comers is Old Arsphenamine, or simply arsphenamine, originally elaborated by Ehrlich as 'Salvarsan' or '606'." This drug, despite former prejudice against its use because of pain and local necrosis, heals lesions quicker and produces a negative Wassermann in a shorter time. A safe, simple technic for its use is described.

Every phase of the subject is thoroughly covered, and the individual variations indicated for the therapy of syphilis in pregnancy, aortitis, nephritis, anemia, and other conditions are detailed. Treatment of early and late neurosyphilis, and the technic of intraspinal and malarial therapy are described concisely. Furthermore, since most reactions to arsphenamine are preventable, Cannon furnishes the data which will enable one to avoid them and indicates the 'warning symptoms' to be looked for.

This series of articles by Cannon furnishes a compendium of the therapy of syphilis which will serve the physician as a reference and guide. It lacks nothing in the way of completeness, from the minutest details of technic to the answer to what one can expect from treatment.

### Significance of Hoarseness

We have previously commented in this JOURNAL upon the importance of hoarseness as a symptom in the early detection of laryngeal carcinoma. Its significance, however, is far wider—in that often it is the sole precursory evidence of other diseases which, when diagnosed quickly, respond readily to measures adequately instituted. Mr. Victor E. Negus, in his address before our State Society in May, 1938, the text of which is published on page 6, has clearly defined the various causes of hoarseness at different ages.

In children, acute inflammations are largely responsible for the appearance of this symptom. Diphtheria, of course, is the most dangerous of the etiologic factors, but vegetable foreign bodies and papillomata may in addition cause stridor and dyspnea which may require operative intervention. In the young adult, the hoarseness of simple chronic laryngitis is usually the result of faulty use of the voice, or a purulent focus in the nasopharynx. One must, how-

ever, be extremely suspicious of early laryngeal tuberculosis in every young adult whose voice remains persistently husky. Timely recognition of the laryngeal lesion will lead to therapeutic means for checking the disease. Hoarseness in elderly people, men particularly, should be regarded with utmost gravity. "An elderly man with gradually increasing hoarseness must be suspected of having a carcinoma of the vocal cord unless it can be proved otherwise."

Negus emphasizes that a complete examination by a skilled laryngologist should be performed in every instance where a person is continuously hoarse for more than three weeks. By close supervision of the hoarse patient, the general practitioner will be able to arrive at an early diagnosis of many serious ailments before they have passed beyond the curative stage.

### Current Comment

"The power to tax plus the power to regulate may destroy the freedom of public opinion and make a dictatorship inevitable, because it may be necessary for Government to take over all agencies of public opinion in order to maintain its power to tax and to regulate." Carl W. Ackerman, Columbia University Dean, at the National Municipal League's conference on government in Baltimore, quoted in part by the *New York Sun* of Dec 3, 1938.

"The almost obstreperously obvious lesson of current international history is that *the world belongs to the man who has a program*." To be found in the Dec, 1938, issue of the *Westchester Medical Bulletin*.

"The medical profession is the most powerful and coherent of any of the professional groups. With its definite professional preparation and objectives, the considerable background of general education that is now prescribed and the code that it professes, it comes nearer meeting the technical definition of a profession than any other major profession." Excerpts from an address by Guy Stanton Ford, Ph D., Dean of Uni-

versity of Minnesota Graduate School.

"Families living in small midwestern cities 'are more likely to economize by not seeing the dentist, the oculist, or even the doctor than by not buying supplies for the family medicine chest, when funds run low'.

"This is the announced conclusion of a survey made under the direction of Dr. Louise Stanley, chief of the Bureau of Home Economics of the Department of Agriculture.

"The survey was made of 3,118 native nonrelief families living in Lincoln, Ill., Boone, Iowa, Columbia and Moberly, Mo., Mount Vernon and New Philadelphia, Ohio, and Beaver Dam, Wis.

"Not until the family income reached the \$500 per year level did the reports show as many as half the families consulting a physician. Incomes were nearly three times this (\$1,250 to \$1,499) before half the families spent money for dentists." Interesting facts to be found in the St. Louis County (Kan.) Medical Society *Bulletin* for Dec 9, 1938.

"The physician is the flower of our civilization" claimed Robert Louis Stevenson, and we feel it fitting to quote him

# THE SIGNIFICANCE OF HOARSENESS

VICTOR E. NRGUS M.S., F.R.C.S., London, England

Surgeon for Diseases of the Throat and Ear King's College Hospital

**H**OARSENESS is so common a symptom of many diseases of the larynx that its study entails an examination of practically all the pathological conditions affecting the organ. The recognition of the cause is of great importance, and a full knowledge of the subject is well worth the study of all practitioners. In many cases hoarseness is merely an inconvenience of no great import, but it may be an early symptom of progressive disease which will kill the patient if not arrested.

The definition of hoarseness is a pathological alteration of the sound produced at the larynx. This sound consists of a fundamental and overtones. The word does not refer to alterations in the resonating cavities, with changes in the quality or character of the voice, such as those peculiarities of nasal tone due to obstruction of the nasal fossae, or to defective closure of the nasopharyngeal sphincter.

Nor does it refer to disorders of articulation, such as slurring, stuttering, and stammering, which are due to incoordination of the muscles concerned in respiration, phonation, or articulation, with no discoverable organic changes.

It will simplify the discussion if the disorders occurring at different ages are considered separately, the incidence of disease varies considerably according to the time of life.

## Hoarseness in Children

An important cause of hoarseness in children is *diphtheria*, the first symptom of which is, generally, sore throat. Local inspection and bacteriological examination establish the diagnosis. Associated dyspnea, pyrexia, and severe illness would afford further evidence.

*Simple acute laryngitis* in children is of sudden onset and usually, but not always, associated with pyrexia and signs of inflammation in the nose and pharynx, there is an absence of true membranous deposits and Kleb's Loeffler bacilli. Dyspnea is a possible symptom, but not so commonly as in marked diphtheric types of infection. The significance of increasing hoarseness in such cases is important, as it gives warning that obstruction may follow, with the necessity for bronchoscopic aspiration, intubation, or tracheotomy.

A third type of acute inflammation causing sudden change in the voice follows the inhalation of a *vegetable foreign body*, with consequent acute tracheobronchitis and inflammatory swelling below and around the glottis.

Gradually increasing hoarseness, unassociated with fever, is not common in children, but when present it has two main causes. One is chronic laryngitis of simple or atrophic type, and the other is the presence of papillomata.

*Chronic laryngitis* may be caused by misuse or overuse of the voice, it is frequently associated with nasal obstruction or with inflammatory changes in the nose, postnasal space, sinuses, or pharynx. There is no laryngeal obstruction. The most common cause in childhood is catarrhal infection of adenoids.

*Papillomata*, on the other hand, are purely local and produce stridor or dyspnea if at all large, sometimes sufficient to require tracheotomy. The results of this operation may perpetuate the symptom of hoarseness if the cannula has been inserted too near the cricoid cartilage, with production of *perichondritis* or *cicatricial stenosis*, or with *fixation of the arytenoid cartilages*. The cause of stenosis



is readily ascertainable from the history, but the treatment is difficult

*Laryngismus stridulus* and *congenital laryngeal stridor* produce temporary changes in the voice, but are not likely to be confused with the conditions mentioned above

### Hoarseness in Young Adults

*Acute laryngitis*, *diphtheria*, and *vegetable foreign bodies* affect others besides those of youthful years, but less frequently as regards the two latter complaints. Hoarseness, here again, may be due to *fixation of the cricoarytenoid joints*, following diphtheria or high tracheotomy, as in children. The majority of such cases are of long standing and their recognition is easy. Breaking of the voice in youths at puberty must be distinguished from vocal defects of pathological type.

*Simple chronic laryngitis* may cause a change of voice and is particularly liable to affect teachers, as at a younger age, some cause in the nose, sinuses, or throat will give a clue as to the diagnosis. Excessive smoking may be a cause of huskiness. Young women with soprano voices may develop *Singers' Nodes* on the vocal cords, or they may be due to small submucous hemorrhages resulting from faulty voice production. The node is readily seen but not so easily cured, an improved method of singing must be taught after the node has disappeared as a result of rest or operation.

A serious condition to be suspected in a young adult whose voice is husky is *laryngeal tuberculosis*. The pathological cause may be little more than weakness of the intrinsic laryngeal muscles, secondary to general asthenia, or to a mild catarrhal inflammation of the cords at their posterior extremities. When advanced, there may be tuberculous deposits in the interarytenoid region or infiltration and ulceration of the vocal cords. The significance of persistent hoarseness in such a case must not be overlooked, because of the gravity of the disease and the necessity of early and prolonged treatment, in fact, it is the habit in most sanatoria

to examine the larynx of all patients suffering from pulmonary tuberculosis. Early signs of disease may thus be discovered and checked, even before the patient has become aware of any obvious change in the voice.

The prognosis in a case of pulmonary tuberculosis is made considerably worse if the larynx is affected, a patient with affection of part of one lobe only, who would otherwise be classed in Group 1 is placed in Group 2 if laryngeal tuberculosis is discovered.

The treatment is affected by this complication and must be prolonged and thorough. Collapse of the lung by artificial pneumothorax gives good results. The prospect of cure of the larynx depends primarily on the progress of the pulmonary and general systemic condition. Rest of the vocal cords is essential if the tuberculous deposits are to heal. It is important also to forbid use of the arms for such exercises as golf or digging in a garden, most actions which necessitate fixation of the chest during use of the pectoral muscles are accompanied by closure of the vocal cords.

Even when the laryngeal disease is healed the prognosis for the future is serious. Recurrent roughness or weakness of the voice must be taken as a danger signal and should direct attention, not only to the larynx but also to the lungs and the resistance generally.

If hoarseness is associated with dysphagia the outlook is gloomy, as there is then a probability of involvement of the aryepiglottic folds, possibly with ulceration, this points not only to widespread tuberculous infiltration, but also to the danger of lack of nourishment because of pain on swallowing.

### Hoarseness in Adults

*Inflammatory diseases*, both acute and chronic, may occur at any age, and sufficient has been said already about those of simple and tuberculous type. Tobacco, alcohol, misuse, or overuse of the voice are important factors. *Syphilitic laryngitis* is, at the present day, rare in the south of England, in the course of the

year many patients with tuberculosis of the larynx are seen but few with syphilis, either of the tertiary or secondary type. A robust man is the most likely subject, and the voice is strong but rough, other signs of the disease may be found in the pharynx, while blood tests give confirmatory evidence. Syphilitic affections of the larynx are usually tertiary, while the pharynx is more often involved during the secondary stage. *Malignant neoplasms* are rare, except in elderly individuals, the subject will be dealt with in a separate section below. *Simple neoplasms* are uncommon but sometimes occur as fibromata, papillomata, or cysts. The only means of diagnosis is visual examination, followed if necessary by biopsy.

*Neurological disorders* appear in considerable variety, but not with frequency. *Bulbar palsy* is perhaps more often seen than are other types, but *syringomyelia*, *disseminated sclerosis*, *tubes*, and *general paralysis* may all appear. The changes of voice are due in part to affection of the intrinsic laryngeal musculature, but there generally are in addition characteristic disorders of articulation, caused by weakness or paralysis of the muscles of the pharynx, lips, and tongue. The voice in bulbar palsy has so peculiar a slurring quality that once heard it is not forgotten.

There may be associated symptoms of difficulty in swallowing, with collection of saliva in the pharynx, which makes the diagnosis easy. As well as these central diseases affecting the nucleus ambiguus there are many cases of hoarseness due to peripheral lesions of the recurrent laryngeal nerves. If one nerve is out of action, with paralysis of the intrinsic muscles on that side, the voice is husky, but there is no dyspnea, except on extreme exertion, unless there is some associated lesion in the thorax. Examination will reveal the immobile vocal cord either in the adducted or in the cadaveric position, search must then be made for a tumor at the base of the skull, a malignant growth in the esophagus, enlarged glands in the neck, or something in the mediastinum as the cause of pressure. If there is a large

mediastinal tumor or aneurysm there may be difficulty in breathing and often a brassy cough, dysphagia, also, may be present. Neuritis may cause the lesion and may follow diphtheria, influenza, or some other fevers, or may be due to metallic poisoning, as by lead.

It is possible for the recurrent nerve to be caught up in scar tissue after *thyroid operations*. If one cord only is affected the patient does not suffer any serious disability, but if both sides are paralyzed there is extreme dyspnea with stridor, requiring tracheotomy as an emergency measure. Luckily this accident is infrequent.

### Hoarseness Affecting Women

In addition to the many causes mentioned as affecting young adults of both sexes, women are the subjects of certain other affections of the larynx. One of considerable importance is *functional aphonia*. It may give a breathy tone to the voice or may even make the patient completely voiceless. The reason for the upset is inability to bring the vocal cords together on attempted phonation, when air is expelled from the lungs it escapes through the partially or completely open glottis with the production of no more than a feeble whisper, accompanied by considerable air waste.

There is no difficulty in respiration, as the vocal cords can separate normally, and there is no inability to cough—a test of some value—or to close the larynx during swallowing. Laryngeal tuberculosis must be excluded, the remedy then consists in mild electrical stimulation combined with suggestion and reassurance. Occasionally the exact opposite is met with, the patient experiencing difficulty in speaking because of excessive closure of the glottis, the condition may well be described as hyperphonia.

Another complaint affecting women more frequently than men is postcricoid carcinoma. The neoplasm may start at the mouth of the esophagus and in time may spread up on the posterior surface of the larynx. Edematous swelling of the arytenoepiglottic folds is produced,

with some impairment of movement of the arytenoid cartilages. Defective movement of the vocal cords, together with associated inflammatory swelling in the posterior part of the larynx, causes hoarseness. This symptom is associated with difficulty in swallowing and sometimes with pain referred to the ear. The significance of hoarseness in such a case must not be overlooked, as on early diagnosis depends the possibility of cure, either by excision of the growth or by irradiation.

A precursor of this type of growth is chronic inflammation of the cricopharyngeal fold, sometimes known as *chronic hypo-pharyngitis*. This affection sometimes leads to changes in the voice, even when no malignant changes are visible.

### Hoarseness Affecting Elderly Men

A condition of the utmost significance must now be considered and that is *intrinsic carcinoma of the larynx*. Men around sixty years of age are the chief victims, but others as young as forty-five or as old as eighty may be affected. It is of great importance to establish an early diagnosis, if cure is to be attained. The results of treatment of localized growths are so satisfactory as to reward to the full the practitioner who recognizes the disease before it has spread widely. An elderly man with gradually increasing hoarseness must be suspected of having a carcinoma of the vocal cord unless it can be proved otherwise. Skilled examination will establish a diagnosis. The cause of the vocal disorder may be simple laryngitis, in which case a cause may be present in the nose, sinuses, or pharynx, even if this is the case there may still be malignant changes commencing in the chronically inflamed mucosa. Treatment must be instituted to improve the inflammation in the nose and pharynx, and vocal rest, with avoidance of smoking, must be insisted upon for at least three weeks. If the inflammatory laryngeal changes disappear or improve considerably it will then be possible to say whether a neoplasm is present.

Greater difficulty is experienced when *hyperkeratosis* is present, as the chronic

thickening of the mucous membrane does not respond well to treatment. As with other types of chronic laryngitis, the patient must rest the voice, using only a gentle whisper or, better still, maintaining complete silence. He should be given small doses of potassium iodide and a nebulizer producing a fine cloud of mild sedative oils in a base of paraffin or benzoin. Failure to improve suggests the desirability of further investigation, if necessary by biopsy. It must always be in the forefront of the medical practitioner's mind that intrinsic carcinoma of the larynx commences on the anterior part of the vocal cord, while keratosis has a more diffuse distribution. The localized form of keratosis, known as *pachydermia laryngis*, is confined mainly to the region of the vocal processes of the arytenoid cartilages and is therefore generally distinguishable from the early stages of carcinoma. An extrinsic carcinoma of the larynx, involving the aryepiglottic fold or epiglottis, will cause hoarseness if it invades the laryngeal aperture, or causes secondary swelling. Associated symptoms of difficulty in swallowing and pain referred to the ear help to establish the diagnosis.

### Conclusion

The object of this paper has been to give a general and necessarily superficial review of the conditions producing hoarseness and to stress the significance of the symptom, particularly as regards the possibility of early and therefore curable tuberculosis and malignant disease. It is the general practitioner's privilege and duty to save many lives by early recognition of these serious complaints in their early stages. No individual should be continuously hoarse for more than three weeks without obtaining the benefit of a skilled report on the condition of his larynx.

. . .

I am extremely grateful to Sir St. Clair Thomson for reading and correcting this paper and for offering many criticisms of great value.

# THE RELATION OF DIABETES TO SURGERY

IRVIN ABELL, M D , Louisville, Ky

*President American Medical Association*

IT is well within the memory of many in this audience that the occurrence of a surgical lesion in a diabetic was regarded as heralding the approach of dissolution. At that time diabetics were regarded as extremely bad surgical risks, operations were undertaken mostly for emergencies, always with much trepidation and ended only too frequently in death from coma and acidosis. Today with the help of insulin and modern knowledge concerning perverted metabolism and the means for its correction not only emergency surgery but that looking toward repair and prophylaxis is done with reasonable assurance of success.

As a result of modern methods, more diabetics are reaching adult life and more advanced years and, being subject to the surgical conditions of the respective age levels, they show an increased percentage in surgical practice. In well-organized clinics with close co-operation between the medical and surgical staffs the mortality from operations on diabetics compares very favorably with that for similar lesions in corresponding age levels on non-diabetics. That such has been made possible represents a triumph for modern medicine but its accomplishment necessitates meticulous care in carrying out the various details of treatment and in the exercise of medical and surgical judgment.

While diabetics can be prepared for surgical procedures certain factors combine to make them potentially poor surgical risks. These are an increased susceptibility to shock, intolerance to trauma, cardiorenal lesions, lessened recuperative and reparative powers, the ever present threat of acidosis, co-existent arteriosclerotic changes, depletion and dehydration from the effects of starvation, diarrhea, and vomiting, and the dis-

turbing effect upon metabolism exerted by fever and infection. In estimating the surgical risk of a patient with diabetes these problems must be borne in mind in addition to the immediate surgical condition presented and further consideration given to (1) complications, (2) hazards peculiar to the abnormal metabolism of diabetes, (3) the effects of insulin, and (4) the pathology associated with diabetes. In general, it is true that the higher the blood sugar, the graver the prognosis although the extent of hyperglycemia is not always an absolute index of the severity of the disease.

Routine urine examinations are usually relied upon to exclude diabetes before operations and while glycosuria is usually present in hyperglycemia exceptions are not infrequently noted in surgical cases. Certainly the correlation between the amount of sugar in the urine and in the blood is not a close one. Hypoglycemia may be noted in debilitated, emaciated patients and must needs be corrected before operation is undertaken. Acidosis greatly increases the risk to the surgical patient while emergency operations can and must be done in the presence of acidosis, operations of choice should be deferred until the urine is free of ketone bodies.

The hazards peculiar to the abnormal metabolism of the diabetic are to be found in the increased metabolism of hyperthyroidism, infection, and overfeeding and in the decreased metabolism of exhaustion from undernourishment. The more rapid and more recent the exhaustion, the graver the condition of the patient. The use of insulin plays an important part in estimating the danger to the patient and the suitability of the latter for operation. The common mode of

*Read at the Annual Meeting of the Medical Society of the State of New York New York City  
May, 1938*

death of surgical diabetics before the introduction of insulin was acidosis or coma. Today this is rarely seen, the cause of death being directly attributable to the surgical lesion. Insulin prevents or cures acidosis and enables the patient to take a fuller diet, promoting increased resistance and favoring recovery.

The pathology associated with diabetes that is important from a surgical standpoint is to be found in the arteries of the extremities, particularly of the legs. The vast majority of diabetics coming to operation are above forty years of age with a high percentage of these between the ages of fifty and sixty, at which period of life arteriosclerosis is a common finding. In the nondiabetic the changes in the arteries of the extremities are largely found in the middle coat consisting of calcification with thickening of the intima and deposit of atheromatous material. In addition to this typical arteriosclerosis Warren and Smith have described another type of arterial lesion in the diabetic consisting of endothelial proliferation and fatty deposition in the intima. This type may develop fairly rapidly or may be present for long periods before gangrene supervenes. In the slowly developing cases of both types the best development of collateral circulation was found while in some cases of short duration advanced intimal change and absence of compensatory collateral circulation obtained. Diabetic gangrene is rare in the youthful patient, being most common after the age of fifty. Doubtless its frequency at and after this age is associated with the increased incidence of general arteriosclerosis at this age. The effect of chronic hyperglycemia and the disturbance in the metabolism of fats, particularly the results of long continued hypercholesterolemia, which is said to promote calcification and obliteration of the lumina of the vessels, are factors which are believed by many to be of great importance.

The preparation of diabetic patients for operation will vary with the absence or presence of infection in the lesion for the relief of which the operation is to be un-

dertaken. In the absence of infection the time element is not a factor, consequently the surgical procedure can be deferred until such time as the objectives of preparatory treatment are attained. These are, first, freedom from acidosis and glycosuria on a diet providing at least 15 calories per pound of body weight with or without the use of insulin and, second, the procurement of the most advantageous conditions for operation both as regards the nutrition of the patient and protection from infection. In the elective cases that permit of such preparation the results at the present time are uniformly satisfactory, the control of the diabetes allowing the case to pursue its ordinary surgical course. While the practice of starving patients before operation has largely been discarded, it certainly has no place in the preparation of the diabetic. Adequate reserve of glycogen, fluids, and salts are essential and these can be maintained only by proper nutrition, hence, feedings should be continued until a few hours before operation. In the cases in which insulin is employed in the preparatory treatment, it should be discontinued when the feedings are discontinued to give it after this time raises the danger of hypoglycemia and of increasing the susceptibility to shock.

In the presence of surgical emergencies nothing is to be gained by delay in fact when these possess infection as a feature, delay may be actually harmful. Infection tends to increase the sugar content of the blood and to act as an inciting cause of acidosis and coma, furthermore it limits the efficacy of insulin, hence the necessity for its control or elimination without delay. After the administration subcutaneously of 20 to 30 units of insulin and of 1,000 cc of saline solution intravenously the operative procedure is carried out, after which the further treatment of the diabetes is based on the blood and urine findings. The operation should be carried out as expeditiously as is consistent with thorough work, accurate hemostasis, and the minimizing of trauma. It is rarely necessary to give insulin during an operation. The dehydration resulting from

the acute illness should be combated by the administration of fluids, preferably saline, which may be started during the operation. The choice of supplying it subcutaneously or intravenously will be made upon the condition of the patient, particularly the cardiovascular system since it is advisable to avoid placing an undue strain on a weakened or damaged heart. While intravenous and subcutaneous administration of glucose is frequently necessary, oral feeding should be started as soon as the patient's condition allows since glucose, given parenterally, escapes the glycogen barrier of the liver and is in part excreted in the urine, rendering urinalysis useless as a gauge of the patient's progress.

The selection of the anesthetic will depend on the surgical lesion and its location. General anesthetics, notably chloroform and ether, produce some degree of hyperglycemia and acidosis in normal persons which postoperative vomiting and food restriction intensify. In filtration anesthesia with novocain when the lesion is accessible to this method, is ideal. Spinal anesthesia is satisfactory when the lesion involves the pelvis or legs; some surgeons prefer it for all abdominal lesions, while others feel that the increased dose demanded for upper abdominal operations makes it more dangerous than inhalation anesthesia. Ethylene and nitrous oxide produce but little increase in the blood sugar content and as a rule cause but little nausea, allowing the patient to take and retain food comparatively early. If abdominal relaxation is essential to expediting and shortening the time of operation or to reducing the degree of surgical trauma the addition of a small amount of ether to the ethylene or nitrous oxide will secure it with a risk less than that entailed by prolonged manipulation. The after care as well as the preliminary preparation of the diabetic should be entrusted to one thoroughly conversant with the management and treatment of diabetes.

The successful solution of the perplexing problem presented by the surgical diabetic hinges upon the co-operation of the

internist and the surgeon, each of whom must be qualified in this particular field, since the joint knowledge and service of both are essential to it. The frequency with which gallbladder disease is associated with diabetes has inclined many to the view that a causal relationship exists between the two, the disease in the pancreas being held secondary to that in the gallbladder. The most frequent age for the onset of diabetes is fifty years or well within the common age incidence of gallstones while the longer duration of diabetes under the present regime of treatment allows greater opportunity for the development of gallbladder disease as well as increased occasion for its recognition. Regardless of this observation the improvement and, at times, disappearance of diabetic symptoms noted following the removal of diseased gallbladders, whether or not due to the favorable influence which the clearing up of foci of infection in general exerts upon this metabolic disorder, would seem to justify surgical intervention both as a prophylactic and curative measure.

The relationship of hyperthyroidism to diabetes presents points both of interest and difficulty. That the assimilation of glucose is disturbed in hyperthyroidism is shown by the glucose tolerance test and by the frequency with which glycosuria is noted both in primary hyperthyroidism and in adenomata with secondary hyperthyroidism. It is at times difficult to say whether or not the disturbed metabolism represents a true diabetes. Joslin and Lahey offer a somewhat different standard for the diagnosis of true diabetes in the presence of hyperthyroidism in requiring a higher blood sugar than for the standard diabetic. The dietary control in such cases is manifestly trying on account of the augmented metabolism due to the increase in thyroxin. The latter increases the danger of diabetic acidosis and renders insulin less effective, a situation analogous to that presented by infection. On a low carbohydrate diet there is an increase in the amount of acetone bodies in the blood on a high carbohydrate diet it may not be possible to

attain the objective of keeping the urine sugar free but it is possible and important to prevent the appearance of the acetone bodies. Insulin, diet, and iodine may be simultaneously employed in carrying such patients through operation after which they respond more readily to the diabetic regime.

The group of diabetics showing the greatest mortality is the one in which complications arise as a result of infection, cellulitis, carbuncles, and gangrene. Here, as elsewhere, an ounce of prevention is worth a pound of cure. The practice in some clinics of giving diabetic patients printed instructions regarding the hygiene of their bodies is a commendable one and could well be extended by the practicing physician to his known diabetic patients. Scrupulous body cleanliness is of paramount importance and is to be attained by daily bathing with soap and water, avoiding too vigorous rubbing. When the skin is unduly dry, emollients in the shape of oil or lanoline are useful. Light woolen socks or stockings, neither too short to produce pressure nor too long to allow wrinkling, should be worn with well-fitting shoes. Extremes of heat and cold are to be avoided. The care of blisters, minor skin injuries, corns, bunions, and ingrown nails should become the duty of the doctor, not of the patient. Chronic infections about the feet, bacterial and parasitic, should be searched for and treated. The subjective symptoms of deficient circulation in the feet and legs are discoloration, coldness, numbness, and pain regardless of the presence or absence of these warning symptoms, a determination of circulatory efficiency should be made in every diabetic, particularly if the patient has attained the age of fifty. The x-ray is of value in revealing the calcification of the larger arteries but does not show the condition of the capillary bed upon which the development of collateral circulation depends. There is no test, chemical or laboratory, which gives an accurate estimate of efficiency of collateral circulation. This is to be determined by clinical examination of the arterial pulsation, the

color, the temperature, and the reaction to various positions of the affected leg. Arterial pulsation may be absent in a foot in which collateral circulation adequately compensates for it. Such a foot, however, lives under a continual threat of disaster. In the light of the knowledge that practically all diabetics at or above fifty show some change in the peripheral arteries it would seem advisable to attempt by exercises similar to those of Buerger or by passive mechanical means to stimulate collateral circulation before the advent of complications.

Gangrene complicating diabetes occurs clinically in three groups, one in which the condition is primarily due to deficient circulation, one in which the condition is primarily due to infection, and one in which a spreading infection is engrafted or superimposed upon deficient circulation. Three types of gangrene are observed, the arteriosclerotic, the embolic, and what may be termed diabetic gangrene. The arteriosclerotic is similar to the senile gangrene of nondiabetic patients.

The embolic or thrombotic results from an embolus or occluding thrombus due to an acute infection. In the so-called diabetic gangrene, arterial occlusion has occurred slowly and adequate circulation has developed. A minor injury provides the wound of entry for infection, the resultant swelling shutting off so much of the blood supply as to cause gangrene. The deficient circulation is inadequate to a localization of the infection, its spread occurring along the cellular planes, veins, and lymphatics. In this group septicemia frequently occurs with high mortality. With the exception of the embolic or thrombotic type arteriosclerosis of both common and distinctive character forms the background of all diabetic gangrene. Aside from producing arteriosclerosis, diabetes prepares the soil for gangrene by its influence on the nutrition and metabolism of the tissues, the actual precipitation being due often to what might seem an inconsequential trauma. The treatment will depend upon its extent, disabling pain, determination of collateral

circulation, and the pressure and degree of infection

Time does not permit of a detailed discussion of the factors influencing choice of operation but they may be generalized as follows (1) incision and drainage is rarely indicated alone but may be combined with amputation of a toe in cases in which collateral circulation is sufficient to localize the infection to the region of the toe, (2) amputation of gangrenous toes may be undertaken (a) when there is a good pulsation in the dorsalis pedis artery, (b) when the gangrene is fairly well demarcated in the absence of pulsation in the dorsalis pedis artery providing the foot is warm and of good color especially when dependent, (c) when the diabetes is mild, the pain in foot is negligible and the gangrene and accompanying infection remain localized. Major amputations are indicated in cases presenting (1) definite gangrene of one or more toes in the absence of a dorsalis pedis pulse provided the foot or a part of the foot is cold and of poor color or provided there is a definite point of temperature change in the lower leg, (2) beginning gangrene with spreading infection involving the deeper structures of the foot, (3) deficient blood supply without actual gangrene in which pain is not relieved by conservative measures, (4) a viable foot as far as circulation is concerned but in which prolonged sepsis endangers life because of diabetes or complicating conditions. One may be pardoned for reiterating the statement as to the importance of mutual understanding and close co-operation of surgeon and internist in the treatment of surgical diabetes since such is probably the most important single factor in the successful management of diabetic gangrene.

Carbuncles in nondiabetics usually are present as localized areas of infection when death follows it is due to septi cemia, metastatic abscesses and exhaustion. Localization of the infection depends upon the vitality and resistance of the patient. The relation between diabetes and infection is such that these protective qualities are deficient in the dia-

betic with the result that localization is absent or imperfect, large areas becoming involved in the septic process, from which the absorption of huge amounts of toxins augment the diabetic disorder with a breakdown of the patient's local and general resistance. Early and efficient treatment are imperative, this implies (a) rational treatment of diabetes, (b) the proper use of heat to hasten localization, (c) operation properly done. Operation is indicated as soon as the central portion of the lesion has softened. We employ a crucial incision, each limb of which extends to the margin of the infiltration. The skin flaps are undermined and the tissue showing purulent infiltration is excised. The remaining cavity is charred with the actual cautery, the point of which is thrust well out into the surrounding indurated tissue until its margin is reached. The resulting wound is packed with vaseline gauze and changed as needed for cleanliness. When the resulting defect is unusually large, pinch grafts are employed to facilitate healing when the granulations have become healthy. We have not employed vaccines, autogenous blood injections, methenamin, or x-ray therapy in the treatment of diabetic carbuncles and believe that if used at all, such usage should be in conjunction with the above outlined treatment.

The writer desires to acknowledge his indebtedness to the authors whose articles are listed in the bibliography and in particular to Drs McKittrick and Root from whose book *Diabetic Surgery*, he has liberally and literally quoted.

### References

- McKittrick, L. S. and Root, H. F. *Diabetic Surgery*. Lea and Febiger (1928).  
 Harrop, George A. *Diabetes in Relation to Surgery*. Lewis, Dean. *Practice of Surgery* vol. 1.  
 Hauser, E. T. and Foster, N. B. *Surgical Aspects of Diabetes*. Nelson Loose-Leaf Surgery vol. 3.  
 Levin, Chas. M., and Dealy, Frank K. *Annals of Surgery* 103: 1020-1039 (1935).  
 Erdman, John F., Clark, H. B., and Buckley, E. J. *Am. J. Surgery* 28: 340-344.  
 Walter, W. Meyerding, H. W., Judd, E. S., and Wilder, R. M.: *Miss. Medicine* 817-825 (Sept.), 1934.  
 Padgett, E. B. Jr. *Ind. State Med. Assn.* 323-326 (July) 1935.  
 Thompson, Malcolm. *Ky. Med. J.* 586-588 (Dec.) 1935.



# DIET AND DENTAL CARIES

RUSSELL W BUNTING, D D S , The School of Dentistry, University of Michigan

AS WE review the various pathologic conditions which commonly occur in the oral field, the treatment of which is specifically within the province of dental practice, we realize that of them all dental caries is the most important. If dental caries were a malignant disease terminating in the death of the individual, practically the entire population of the civilized world would long since have been wiped out. All that would remain would be about 5 per cent of civilized mankind, who seemingly are immune to the disease, and the inhabitants of uncivilized countries who notably are free from it. This scourge of mankind is not malignant. It does not kill but it does cripple and incapacitate a large proportion of people. Its effects are not confined to the teeth themselves but may also produce serious disturbances of the general health. It constitutes the almost sole avenue by which pathogenic bacteria may enter the tooth and pass through the pulp canal to invade the periapical tissue, thereby giving rise to foci of infection at that point. These root-end foci resulting from caries invasion undoubtedly are the most significant sources of systemic infection from the oral field. Concerning them Dr John A. Kolmer, professor of Medicine in Temple University, in discussing the causes of disease recently made this statement: "Without doubt, the systemic diseases that may arise, secondarily, from primary foci of infection about the tooth and gingivae take first place in importance."

Suffice it to say that at least the majority of physicians and dentists believe such foci to be responsible for disease in many other parts of the body, without inferring that the latter are always and solely due to focal infection."

The late Sir William Osler also made this significant statement: "There is not one single thing in preventive medicine

that equals mouth health and the preservation of the teeth."

If dental caries could be prevented or adequately controlled, the most significant forms of dental foci of infection would be prevented and the problems of medicine and dentistry relating to those forms of arthritis, nephritis, cardiovascular diseases, and diseases of the gastrointestinal tract which so often arise from such foci would be wholly eliminated. The significance, therefore, of the study of dental caries and the means of its prevention cannot be overestimated.

So many contradictory statements have been made regarding the nature of this dental disease and the means of its control that the present state of confusion of thought and uncertainty is quite understandable. It is apparent that many or all of the theories advanced have been wrong and serve only to add to the confusion. In order that we may have a clear understanding of the basic principles involved, we must realize that dental caries is wholly unlike other pathologic processes. In no other part of the body are exposed calcic structures decalcified by extraneous acids. It is a unique disease which does not follow the usual course of inflammatory reaction and tissue defense that are manifested by other diseases. The tooth plays an almost passive role in the process. Dental caries is in reality an injury, a progressive destruction of the tooth with the formation of cavity-like lesions which involve first the enamel and later the dentin. This destruction of dental tissues is not general but distinctly localized to those surfaces of the tooth where stagnation of the environmental fluids is favored. It never occurs on a continuously clean tooth surface. The active destructive principle is unquestionably some form of organic acid. These acids are not resident in the

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 12, 1938*

saliva but are formed on the tooth itself by the products of localized fermentation of carbohydrate food debris. There are many types of acidogenic bacteria in the saliva capable of breaking down carbohydrates to lactic acid but there are only a few that are also sufficiently aciduric to live in their acid products. Of these the most prominent is the oral *L. acidophilus*.

This organism has such a high correlation with the activity of dental caries that it may well be regarded as the specific bacterial factor. It is always present in the salivas of individuals having active caries, often in extremely high counts, and is consistently absent or extremely low in numbers when caries is inactive. The degree of such correlation is approximately 90 per cent. So close is this relationship that the *L. acidophilus* counts are now being used as a dental caries index with a very high degree of accuracy.

The activity of dental caries is variable. It occurs most commonly among civilized people. Many primitive races living on native foods are practically free from the disease. That immunity to the disease is not a racial characteristic is indicated by the fact that when such native tribes migrate into so-called civilized areas and adopt the diet of modern man, their teeth begin to decay with alarming rapidity.

Dental caries varies with age. It is most common during childhood and decreases in activity after the age of twenty. Dental caries is not determined by the hardness or softness of the teeth. The strongest teeth cannot successfully withstand the acids of caries if continually subjected to them, and soft teeth never decay solely because they are poorly formed. Many hypoplastic and imperfect teeth remain free from caries throughout the life of the individual. The structure of the tooth may have a relative effect on the process in that it may impede or accelerate the rate of caries, but it does not determine the occurrence of the disease.

Dental caries is not determined by the degree of cleanliness of the mouth. In the human mouth cleanliness is never absolute but relative only. As a rule the

cleaner the teeth the less active caries will be, but filth alone will not induce the disease. The presence of an aciduric bacterial flora is necessary to the process.

Dental caries is definitely controlled by certain unknown inherent characteristics of the individual. A small percentage of people are apparently immune to the disease. In them *L. acidophilus* is seldom found in the saliva and if implanted therein it soon disappears. As yet no immunologic principle antagonistic to the organism has been found in the saliva, but Philip Jay of Michigan has demonstrated in the blood of caries immunes a high agglutinin titer against it. This titer is low or absent in the caries susceptible individuals. Skin reactions to *acidophilus* filtrates have also been demonstrated in caries susceptibles. The great majority of people are more or less subject to the disease, especially during childhood. In them *L. acidophilus* grows in the saliva with varying degrees of activity somewhat proportional to caries activity.

The activity of dental caries is not associated with either a low calcium or low phosphorus intake or with deficiencies of these substances in either the blood or the saliva. Immunity to caries is not associated with consistently higher blood or salivary calcium and phosphorus values. The feeding of these inorganic salts for the prevention of dental decay is therefore wholly unsupported by the biochemical findings.

The opinion has been held by many that decay of the teeth is a localized evidence of dietary inadequacy and nutritional unbalance. A variety of hypotheses have been advanced in which certain food factors have been considered to be most important in this regard: avitaminosis, especially vitamins D and C, low calcium and phosphorus, and low alkalinity have each been advanced as most responsible for dental disease. It is claimed that by the feeding of any one or combinations of these food factors the teeth may be protected against caries.

Many feeding experiments have been conducted in which children have been

fed food concentrates in which one or the other of the so-called protective foods have been accentuated and variable degrees of dental caries reduction have been reported. At Michigan we have fed viosterol, calcium and phosphorus, and vitamin C to children under carefully controlled conditions, but we were unable to discern any appreciable reduction of caries. Furthermore, the salivary *Lactobacillus* counts, instead of dropping as a result of such feeding measures, increased at first and then receded to their former levels.

For the most part, the objective of such feeding programs is the increasing of the resistance of the teeth against dental caries. This hypothesis is untenable. Dental caries is not determined by the strength or resistance of the tooth itself. Furthermore, we frequently see children who have been raised on the most adequate and well-balanced diets who have from earliest infancy had all the protective foods which could be recommended by pediatricians and yet their teeth have suffered from extensive caries. Conversely, many children who have been malnourished throughout life may have little or no decay of the teeth. In our experiments we have observed an almost complete arrest of dental caries in a group of over 300 children who have been raised on inadequate diets which were low in all the vitamins, low in calcium and phosphorus, and low in calories. Certainly, for them the control of dental disease could not be attributed to the protective effect of any of these substances. It is because of these facts that we have been unable to accept the dictum that dental caries is a deficiency disease or that the provision of an adequate nutrition will necessarily insure a freedom from that disease. Unquestionably, during the developmental period at least, the provision of adequate amounts of inorganic salts and activators of inorganic salt metabolism such as sunlight, viosterol, and cod-liver oil is highly important for the formation of good bones and teeth, but there is no adequate evidence that the provision of any or all of these principles

is of any practical value in the prevention of dental caries.

Although the Michigan group were unable to obtain any appreciable control of dental disease by the addition of minerals and vitamins to the diet, they have obtained striking and highly gratifying results by the elimination of sugar and starch from the daily dietary intake. In this manner the *Lactobacillus* count may be promptly lowered and dental caries may be definitely arrested in a great majority of cases. In some the withholding of sugar alone will suffice, but in others it is necessary also to reduce the starch. As previously mentioned, we have observed over a period of several years a group of approximately 300 children in an institution where the feeding is closely supervised. These children have received a diet that was nutritionally unsatisfactory and did not contain adequate amounts of the protective food factors. Although the total diet was nearly 50 per cent starch, practically all free sugar was eliminated. No sugar was allowed on cereals or in beverages and only a minimum amount was used in cooking to make foods palatable. All forms of candy and sweetened desserts were prohibited. It was found that the children so fed were in good physical condition with but slight evidences of undernutrition and that 80 to 90 per cent of them were practically free from oral acidophilus and dental caries. These figures are much higher than any other human experimentation in caries control thus far reported. A small number, probably those who were highly susceptible, continued to have a moderate growth of *L. acidophilus* and occasional dental caries. The great majority showed every evidence of an arrest of dental disease.

When candy and free sugar were fed to a group of these children the salivary acidophilus was immediately excited to a high degree of activity and after a period of several months new dental caries appeared. In a few individuals who were definitely caries-free, the acidophilus counts remained low in spite of the increased carbohydrate intake. In them

dental caries did not occur. These same observations have been made on children in other institutions and in private homes.

From these and other evidences which we have elsewhere reported we are led to the conviction that the most important etiologic factor of dental caries is the presence in the mouth of specific types of acid producing bacteria which determine its occurrence irrespective of all other factors. It is true that cleanliness, hardness of teeth, the physical qualities of the diet, and certain other considerations may determine the rate and extent of the disease, but the initial onset and the progress of the disease are determined most of all by the degree of activity of the oral bacterial factors without which dental caries apparently cannot occur. Furthermore, in the control of dental caries we have as yet found but one method of reducing the specific oral bacteria, namely, the reduction of sugars and starches in the diet.

We recognize the definite limitations of this procedure in any wide spread control of the disease. Although the elimination of sugar alone from the diet will in a large majority of cases greatly reduce or entirely arrest caries it has but a limited usefulness as a preventive measure. When we realize the extent to which sugar has been incorporated into the daily dietary habits of civilized man, we must admit that the possibility of any national movement to forego the use of sugar and candy is quite remote. During the past year there has been a substantial increase in sugar consumption in this country and it is reported that over two billion pounds of candy have been sold to the American people.

Even the fear of dental caries will not combat an enterprise of such magnitude as this.

That such a high sugar consumption is not necessary to life and health is indicated by the fact that our forefathers who pioneered the land in which we live were raised on an annual consumption of a paltry twelve pounds of sugar per capita.

For those individuals who are deeply concerned over the rapid destruction of their teeth by caries and who are willing to forego the eating of sugars and highly fermentable starches, one tangible means of relief is offered. At Michigan a caries control clinic is now in operation where patients are advised, under the direction of their physician, to reduce their sugar and starch intake and the effectiveness of such procedures is determined by bacterial counts of oral acidophilus. This procedure has been very effective when patients have co-operated in carrying out the dietary prescriptions. This service has even been extended to those at some distance from Ann Arbor by the examination of salivary samples sent to the laboratory by air mail. Those who wish to avail themselves of this aid to caries prevention may do so by writing the School of Dentistry, University of Michigan.

We sincerely hope and expect that through further study and experimentation some other more practical method may be found by which *L. acidophilus* overgrowths can be reduced or eliminated from the mouth without such drastic dietary restrictions. In our opinion the greatest hope of caries control lies in the development of some more practicable means of limiting the growth of the specific organisms in the mouth.

---

#### THE END OF A DREAM

Last vestiges of the Federal resettlement administration's experiment with co-operative health groups in Los Angeles County have disappeared into thin air according to the Los Angeles papers. Two starts with two different groups have been made since 1936 with persons who had borrowed money from the AAA privi-

leged to pay \$2 a month for group medical care. The \$2 monthly was to be paid by the Government, and later repaid by the beneficiary along with his original loan. Private concerns were to provide the medical aid, but insufficient remuneration brought about dissolution of the health groups and apparently the whole idea.

# TYPE III PNEUMOCOCCUS PNEUMONIA

## The Effect of Para-Aminobenzenesulphonamido Pyridine in Treatment

EDGAR A LAWRENCE, M D , New York City

SINCE the introduction of M & B 693, para - (aminobenzenesulphonamido) pyridine by Whitby,<sup>1</sup> there have been a number of reports concerning its effect both clinically and in vitro Fleming<sup>2</sup> has described its antibacterial action in vitro and points out that probably the best results would be obtained in the presence of immunized blood Telling and Oliver<sup>3</sup> point out that the effect of the drug in the human is to cause a decapsulation of the pneumococci and thus loss of type specificity They were able to restore type specificity by repeated mouse passage

In reporting the two following cases, we are attempting to show both the clinical and bacteriological effects of M & B 693, and also to demonstrate that the type specificity of the pneumococcus is lost prior to its decapsulation Sputa were examined at intervals during the administration of the drug and the following procedures on each specimen were carried out

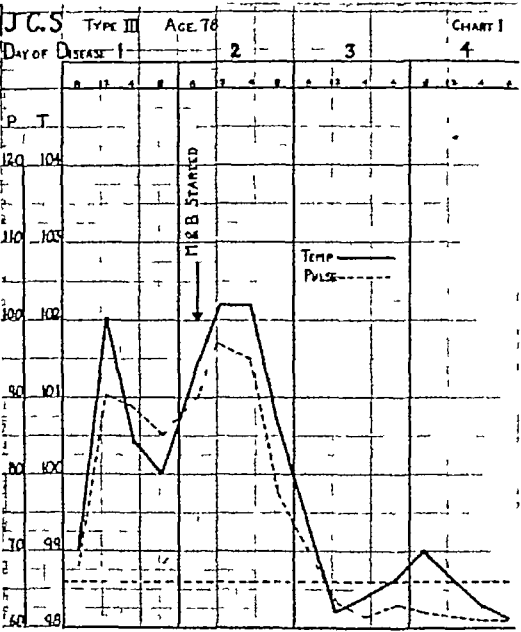
- 1 Quellung reaction with the fresh specimen of sputum
- 2 Direct smears and culture of fresh sputum on artificial media
- 3 Mouse inoculation
- 4 Quellung reaction with the mouse's peritoneal exudate
- 5 Repeated mouse passage to determine the effects on the organism

### Case Reports

Case 1 A white male, aged 78, was first seen on October 23, 1938, complaining of an acute coryza His past history was essentially negative save for an attack of Type III pneumococcus pneumonia in 1935, involving both the left upper and lower lobes, from which he made a slow but uneventful recovery Since that time

he has shown pneumococcus Type III on several occasions both in the sputum and in the throat He has always been a moderate drinker of alcohol

The present illness started with an acute upper respiratory infection which



finally, on October 25, 1938, led to involvement of the left lower lobe, with rusty and, at times, bloody sputum, fever of 102.2° F, rapid shallow respirations, and a pulse rate of 96

On physical examination, he was acutely ill Signs were entirely localized in the left lower lobe where there was suppression of breath sounds and many fine moist râles The diagnosis of lobar pneumonia was made and confirmed by a portable x-ray which showed mottling and early consolidation of the affected lobe The urine was negative and there was a relative leukopenia of 5,300

From the New York Hospital and the Department of Medicine, Cornell University Medical College

The sputum was tenacious, frankly bloody, and yielded pneumococcus Type III by the Quellung reaction and also by mouse inoculation. The organisms were present in large numbers, and culture on blood agar, a pure growth of Type III pneumococcus was obtained in 20 hours. M & B 693 was started on the second day of the pneumonia, the patient received 1 gram (grams XV) of M & B 693 every four hours until a total dose of 19 grams had been given. He received no other medication other than codeine grain  $\frac{1}{4}$  to allay the persistent cough.

The clinical course of the patient was dramatic. After 4 grams of M & B 693 had been given, the temperature dropped from 102.2° F to normal by crisis, the pulse returned to normal levels, the respirations which had been as high as 40 per minute returned more slowly to normal and the patient was entirely comfortable. There was no further elevation of the temperature and the recovery was uneventful. The only untoward results noted from the administration of M & B 693 was a slight cyanosis, nausea, and hiccough after 12 grams had been given. The nausea abated with continuance of the drug but the hiccough continued. Within 24 hours of cessation of the drug, the hiccough and cyanosis had entirely cleared up.

After 4 grams of the drug had been administered, the sputum, which was now rusty, was re-examined by the Quellung method. Though the organisms were still present in abundance, there was no Quellung reaction with any of the diagnostic sera. The capsules were present. On blood agar, after an incubation of 48 hours, one colony of pneumococcus was found, which on subculture in blood broth still failed to reveal a positive Quellung reaction in any of the diagnostic sera. The capsules were, however, demonstrable by a Hiss capsule stain.

After 9 grams of M & B 693 had been administered, the sputum was less rusty and fewer organisms were seen. The capsule now was not demonstrable, the organisms were pleomorphic and the

Quellung reaction was, therefore, entirely negative. There was no growth on any artificial media but on mouse inoculation, death was produced in 40 hours. A positive culture of pneumococcus was obtained from the mouse's peritoneum, heart, and brain. The colonies were of the dew drop variety and typical of pneumococcus Type III, however, though a capsule was demonstrable, no Quellung reaction was obtained. 0.2 cc of the peritoneal exudate was injected into a second mouse, death occurring in 9 hours. However, the Quellung was still negative. With subsequent subinoculation, the organisms from the third mouse showed an occasional positive Quellung with type specific antipneumococcus Type III serum. Mouse 4, which died in 10 hours, revealed organisms that were practically all positive by the Quellung reaction with diagnostic Type III antiserum.

After 10 grams of the drug had been administered, the sputum was thin and watery with only an occasional purulent fleck. Only an occasional organism was demonstrable. On blood agar no growth of pneumococci occurred. The virulence of the organism was apparently so low that on mouse inoculation no death occurred. The first mouse was killed and the peritoneal exudate was injected into a second mouse that showed apparently no ill effects whatsoever.

Case 2\*. A white male, aged 65, was seen on October 26, 1938, by his private physician complaining of feeling chilly and uncomfortable. His past history revealed chronic bronchial asthma and a long standing hypertension (B P 180/70) complicated by intermittent attacks of auricular fibrillation. He was an inveterate smoker and addicted to alcohol in large quantities. The onset of the present illness was hard to determine but apparently he noticed extreme dyspnea during one of his usual asthmatic attacks that failed to subside.

On physical examination, he was acutely ill, cyanosis was mild but definite,

\* I am indebted to Dr. Leo Price for allowing me permission to report this case that was seen by me in consultation.

the breathing was shallow and rapid. Auricular fibrillation was found to be present. Apart from the loud moist râles and rhonci all over the chest, signs were localized over the left lower lobe where there was dullness and many fine crepitant râles. A diagnosis of lobar pneumonia was made. The sputum revealed a Type III pneumococcus and it was decided to administer both M & B

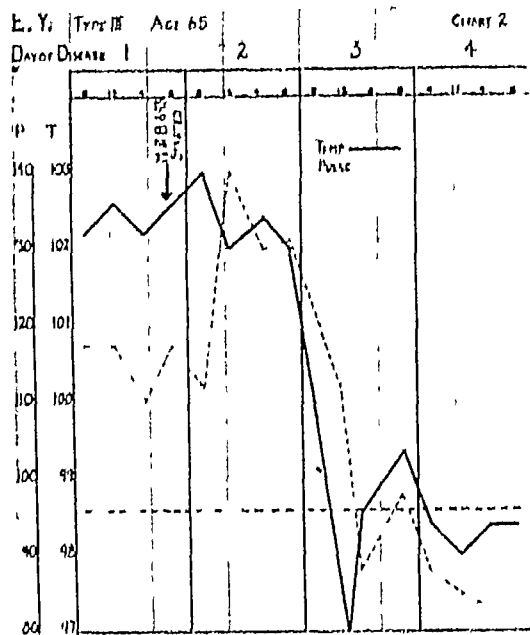
temperature remained constantly between 102.2° F and 103° F, and the respirations between 30 and 36. M & B 693 was started late in the first day of the disease. Crisis occurred after 10 grams of M & B 693 had been given and the temperature on the third day of the disease was 97° F, pulse 88, and respirations 22. The temperature continued to be flat, the pulse slowly dropped to 72 and the respirations to 19. Convalescence was uneventful. Digitalis was given in view of the fibrillation but no other drug was used in conjunction with the M & B 693. Only slight nausea was observed during the administration of the drug.

A similar study was done with the sputum as in Case No. 1. The sputum was rusty and large numbers of Type III organisms were found by the Quellung reaction. It is interesting to note that after 3 grams of M & B 693 had been given, the Quellung reaction was still positive and the temperature remained high. After 10 grams had been given, crisis occurred and it was found that the Quellung had now become negative for any type. Following the loss of type specificity, the capsule disappeared in subsequent specimens and was restored first by repeated mouse passage and followed by the re-establishment of the type specificity in precisely the same manner as in Case 1.

### Comment

The use of M & B 693 in the treatment of these two cases of Type III pneumococcus pneumonia appears to possess definite value. In both cases crisis occurred with rapid abatement of symptoms and recovery was uneventful. It is of note that both cases occurred in men over the age of 65, both were addicted to alcohol and, in Case 2, hypertension, auricular fibrillation, and chronic bronchial asthma complicated the picture.

It is interesting that crisis occurred after only a small quantity of the drug had been administered, possibly demonstrating the direct action of the drug on the invading organism regardless of the concentration of the drug in the blood.



693 and Type III Antipneumococcus Rabbit Serum. The skin and ophthalmic tests were negative and there was no demonstrable sensitivity by the intravenous test. However, after only 1.0 cc of the rabbit serum had been administered, marked cutaneous wheals appeared and a short time later profound dyspnea, substernal pain, and urinary urgency were noted in spite of repeated injections of adrenalin. It was thought advisable to discontinue serum therapy. M & B 693 was given in an initial dose of 2 grams (grains XXX) and 1 gram (grains XV) every four hours until a total dose of 25 grams had been administered. Oxygen was used for some 12 hours early in the disease to combat the cyanosis.

The pulse during the first day of the disease ranged between 118 and 140, the

(Case 1 received only 1 gram as an initial dose) The only untoward symptoms produced by the drug were nausea, hic coughing, and mild cyanosis, all of which rapidly cleared upon cessation of the drug. The toxicity of the drug, as far as our present knowledge is concerned, appears to be much less than that experienced in the use of sulphanilamide.

Bacteriologically, in the reported cases, the main action of the drug is first to cause the loss of type specificity of the pneumococcus which is then followed by complete decapsulation of the organism and finally by its inability to grow either on artificial media or in the mouse's peritoneum. We are unable to state whether this apparent inability of the organism to grow is due to a bacteriostatic or bacteriocidal action of the drug. It would seem, however, that there is a definite bacteriostatic action since improvement is noted so early in the disease. On mouse passage the reverse process is noted, first the reappearance of the capsule and second the re-establishment of type specificity. There was no demonstrable change in the type of the original organism in spite of the complete decapsulation and mouse passage.

## Summary

1 Two cases of Type III lobar pneumonia are reported with recovery.

2 M & B 693 in the above two cases appears to possess definite value in the treatment of Type III pneumonia and deserves further clinical trial in the therapy of not only Type III pneumonia, but of other types as well.

3 The action of M & B 693 on the pneumococcus is first to produce the loss of type specificity and then complete decapsulation. This process is reversed with repeated mouse inoculation, the capsule reappearing first, and finally, type specificity.

4 No transmutation of pneumococcus type was noted during this loss and re-establishment of type specificity.

I am indebted to Miss M. E. Wilder, A.B., for her assistance and originality in carrying out the bacteriological studies.

33 East 61st St.

## References

- 1 Whitby L. E. H. *Lancet* 1: 1210 1938.
- 2 Fleming A. *Ibid* 2: 74, 1938.
- 3 Telling M. and Oliver W. A. *Ibid* 1: 1801 1938.

## REAL MEDICINE STILL WINNING

The voters of California and Colorado November 8 by overwhelming majorities emphatically rejected proposals made in those states to undermine the structure of scientific medicine, as reported in the *A M A Journal*. In California an initiative humane pound law so-called proposing to cripple scientific research by hampering animal experimentation, was decisively defeated. In Colorado an initiative measure proposed by a group of chiropractors to debase the quality of medical care in the state by repealing the basic science act and by destroying other safeguards that have been erected to assure adequate and scientific medical service, was met by an avalanche of negative votes running as high as ten to one in some counties.

In Oklahoma an initiative measure that would have sanctioned practices not conducive to public welfare failed to get on the ballot, because of court action instituted by the medical profession. In Ohio a chiropractic initiative somewhat similar to the Colorado initiative died aborning. The

cultist sponsors apparently becoming disheartened shortly after the proposal was submitted to the attorney general for his approval as to form. Petitions in Ohio were not circulated and the proposed initiative measure was not submitted to the people for a vote.

The medical associations in the states named assumed the lead in thwarting the selfish interests behind these proposals interests that would subordinate the public welfare to their own private ends.

In California and Colorado the state medical associations, aided by many lay and other professional groups and by public-spirited citizens informed the people fully of the dangers implicit in the proposals. To bring these dangers to the attention of the voters necessitated great sacrifices of time and money but the results show that such sacrifices were well worth while and indicate that an informed electorate will support scientific medical care under proper legal and ethical safeguards.



# BLOOD CULTURE: AN AID IN DETERMINING TYPE IN LOBAR PNEUMONIA

## With a Note on Sulfanilyl-Sulfanilamide in Type III Lobar Pneumonia and Septicemia

R D ROECKER, M D , and JOSEPH MILLETT, M D ,  
Meadowbrook Hospital, Hempstead, New York

**A**LL cases of lobar pneumonia admitted to the medical service of the Meadowbrook Hospital within ninety-six hours after onset of symptoms are treated as emergencies. The sputum is immediately typed, a blood culture is taken, and routine treatment—consisting of forcing of fluids, oxygen, sedative, etc.—is instituted. If the sputum reveals Type I, II, V, or VII organisms, the appropriate serum is given intravenously in the recommended doses immediately after skin and ophthalmic tests for sensitivity have been done. Severely toxic patients have been benefited by serum even ninety-six hours after onset. Our results have been uniformly good and correspond to the results reported by other workers in larger series of cases.<sup>10</sup>

Pneumococcus Type III has generally been recognized as producing a lobar pneumonia of marked severity. At the present time, there is no specific horse serum available for the treatment of this disease. Rabbit serum which has given such great promise as a more potent agent in the serum treatment of pneumonia has been found ineffective in treating Type III lobar pneumonia.<sup>11</sup> Because of the results obtained in the last case<sup>8</sup> of Type III pneumonia admitted to the Meadowbrook Hospital in the spring of 1937, it was decided that all subsequent Type III pneumonias would be treated by chemotherapy. The scope of these investigations was also extended to include Group IV cases for which serum was not available. (Those sputums containing pneumococci which showed no capsule swelling with Type I, II, III, V, VII, and VIII antisera are classified as Group IV.) Disulon was chosen as the chemothera-

peutic agent in a selected series of Group IV cases because of its reported low toxicity.

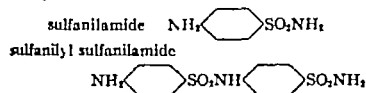
Hoerlein<sup>1</sup> was the first to point out the efficacy of original Prontosil against the Type III pneumococcus and suggested that these organisms might be chemotherapeutically classified as streptococci. Using sulfanilamide in experimental intraperitoneal Type III infections in mice, Rosenthal<sup>2</sup> and Cooper, Gross, and Mellon<sup>3</sup> reported distinctly encouraging results. Cooper and Gross<sup>4</sup> were able to save a large majority of their rats with a Type III lobar pneumonia experimentally induced.

Clinically, the results were equally encouraging. In a series of nineteen Type III lobar pneumonias, which carries a high mortality in the Pittsburgh area, Heintzelman, Hadley, and Mellon<sup>5</sup> reported that of nine patients receiving sulfanilamide seven lived and two died, while of the remaining untreated cases eight died and two recovered. Millett,<sup>6</sup> at the Meadowbrook Hospital, induced a crisis with sulfanilamide in a Type III lobar pneumonia twenty-four hours after onset, which was contrary to the general experience with this disease in a series covering two winters since the establishment of the hospital.

Gray, Buttle, and Stephenson<sup>7</sup> reported that sulfanilyl-sulfanilamide was one-half as toxic and just as effective as sulfanilamide against streptococcal infections in mice. Rosenthal,<sup>8</sup> reporting on the efficacy and toxicity of a series of closely related chemotherapeutic agents of the sulfonamide type, found that 4(4'-amino-benzol-sulfonamide)-benzol sulfonamide (sulfanilyl-sulfanilamide) was one-fifth as

toxic and just as effective as sulfanilamide against experimentally induced streptococcal and meningococcal infections in mice. Sulfanilamide was superior to sulfanilyl sulfanilamide against Type I, II, and III pneumococcal infections in rats and mice. Barlow<sup>9</sup> confirmed Rosenthal's results regarding the toxicity of Disulon and its efficacy in streptococcal infections.

The formula of sulfanilyl sulfanilamide compared to sulfanilamide is as follows



It is a white crystalline compound, difficultly soluble in cold water (0.01 per cent), but much more soluble in hot water.

The following case of Type III lobar pneumonia and septicemia is reported from the medical service because of a dramatic result in a dangerous infection treated with a new chemotherapeutic agent.

### Case Report

A fifty-eight-year-old white female was admitted with the complaint of stabbing pain in the right chest, aggravated on breathing and coughing, of 12 hours duration.

The present illness dates back to three weeks ago when she had a sore throat which lasted for two weeks and apparently responded to home remedies. At 2 A.M. of the day of admission, the patient was awakened from her sleep by a stabbing pain in the right chest beneath her breast. She felt feverish and began to cough. In a few hours she had a temperature of 104° followed by a severe chill. The patient had a severe headache and vomited once before admission.

Past history revealed that the patient had moderate dyspnea on exertion—climbing one flight of stairs—and orthopnea requiring two pillows. There was no history of peripheral edema. Many years ago she had had double pneumonia. She was Gravid IX, Para VIII. A miscarriage 15 years ago was carried through

without complications. The cause was unknown. System review and family history were noncontributory.

Physical examination revealed a white, thin, moderately developed, Polish female, with evidence of recent loss of weight. She appeared acutely ill. There was a short, hacking, slightly productive cough which aggravated the pain in the right chest. The lips were cyanotic. The teeth were markedly carious and the pharynx was acutely injected. The thyroid was palpable.

Examination of the chest revealed a heart within normal limits by percussion. There were no murmurs heard. The rhythm was regular. The rate was rapid, 110, and the blood pressure was 120/? Examination of the right chest posteriorly revealed dullness to percussion from the angle of the scapula to the base with diminished breath sounds and numerous medium moist crepitant râles at the base and in axilla. The left chest was not impaired to percussion and there were numerous coarse râles at the base. The abdomen was somewhat distended but otherwise negative. The extremities were negative.

### Laboratory (December 21, 1937)

|                        |              |                                 |                              |
|------------------------|--------------|---------------------------------|------------------------------|
| Urine                  | Sp Gr 1.020  | acid sugar and albumen negative | The microscopic was negative |
| Blood                  | Hb           | —68%                            |                              |
|                        | Leukocytes   | —11,260                         |                              |
|                        | Polynuclears | —76%                            |                              |
|                        | Lymphocytes  | —21%                            |                              |
|                        | Monocytes    | —3%                             |                              |
| Throat swab and sputum | A few        | Group IV pneumococci            |                              |
| Blood chemistry        | N P N        | 43                              |                              |
|                        | Creatinine   | 1.5                             |                              |
|                        | Sugar        | 118                             |                              |
|                        | Chlorides    | 428                             |                              |
| Wassermann and Kahn    |              | Negative                        |                              |

**Clinical Course** The patient was acutely ill. She was given routine treatment for pneumonia. Sulfanilyl sulfanilamide was given in doses of ten grains four times a day. The temperature was septic in character ranging from 99° to 104°.

A portable x-ray of the chest revealed pneumonic consolidation of the lower portion of the right upper lobe with a bronchiolar pneumonia of the right lower lobe



PLATE I

On the morning of the fourth day (Dec 24), it was noted that a routine blood culture had not been taken on admission and one was taken immediately. The laboratory report of the blood culture by Miss Irene Kirkman, M S, was as follows

There was no growth on the plate. The broth showed a profuse growth of long heavy filaments. These filaments stained solidly with Gram stain. In a few places there seemed to be heavy counter-stained strands with small particles of Gram stain which suggested the possibility of pneumococci (Plate I). For this reason the Quellung typing was set up. The strands stained just as heavily with methylene blue and suspicion that they were fungi was entertained.

Sub-cultures were made to study the organism further. The next day typical colonies of pneumococci were found. On typing, these were found to be Type III pneumococci (Plate II). The dose of sulfanilyl-sulfanilamide was increased to 60 grains per day on December 25 and

was continued up to and including December 30.

The seventh day after admission and the institution of sulfanilyl-sulfanilamide therapy and two days after the dose of the drug had been increased, the temperature dropped to  $100^{\circ}$  and remained at  $100^{\circ}$  to  $100.4^{\circ}$  for twelve more days. Subsequent sputum typings still revealed Group IV pneumococci. Three more x-rays of the chest, taken several days apart, revealed a slowly resolving pneumonia. Two more blood cultures taken subsequently revealed no growth.

### Discussion

The case illustrates quite well the importance of following a definite routine in lobar pneumonia from the standpoint of diagnosis, treatment, and prognosis. Because a blood culture was not taken on admission, it is impossible to tell when invasion of the blood stream took place. The severity of the clinical picture and the septic temperature lead us to believe that the blood stream was infected from

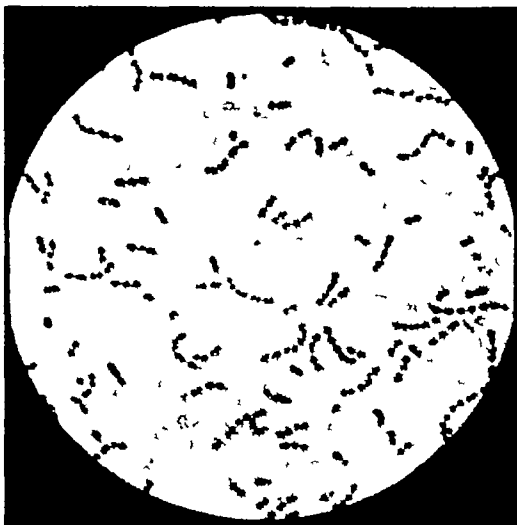


PLATE II

the onset of symptoms. Fortunately for the patient, she received sulfanilyl-sulfanilamide from the time of admission. The mortality of Type III septicemia (98 per cent) and the remarkably heavy

growth in the blood culture leads one to believe that the recovery was due to the chemotherapeutic agent and not to mere fortuitous circumstances.

The patient received a total of 550 grains of Disulon over a period of 10 days with no ill effects. With continued clinical improvement the cyanosis of the lips disappeared in spite of continued sulfanilyl sulfanilamide therapy. There were no skin reactions. The  $\text{CO}_2$  combining power of the blood was 43 vol per cent on the completion of drug therapy. A blood count taken two days later showed 9,900 white blood cells, with 78 per cent Polys, 20 per cent Lymphocytes, 1 per cent Monocytes, and 1 per cent Eosinophils. The urine was negative. No subjective symptoms such as loss of appetite, nausea, or vomiting, and dizziness were elicited. A neurological examination 21 days after cessation of treatment revealed no subjective symptoms of the extremities, or objective findings such as sensory or motor changes, in-co-ordination, paralysis, or changes in reflexes. The neurological examination was undertaken because we were informed that Rosenthal had reported a small number of cases of peripheral neuritis in a limited series of gonorrhea cases treated with 60 grains of sulfanilyl sulfanilamide a day for a period of 10 days. The symptoms in his cases appeared one to two weeks after cessation of treatment.

There were 30 cases of Group IV lobar pneumonias treated with sulfanilyl sulfanilamide. The average dose per patient in this series was 300 grains for an average of 7 days. The only complication noted was a rather intense cyanosis in five cases. There was no alteration in the red or white count, fever, or dermatitis. No peripheral neuritis was noted in these cases. The  $\text{CO}_2$  combining power in several cases had dropped to 45 volumes per cent. This was easily counteracted by sodium bicarbonate. A series of 20 cases of Group IV pneumonias treated with sulfanilamide revealed approximately the same result. We are able to state that neither sulfanilyl sulfanilamide nor sulfanilamide in a small series of cases of

Group IV pneumonias, had any marked toxic effects. We also found that both compounds had no influence on the clinical course of Group IV pneumonia.

Bacteremia influences the prognosis of lobar pneumonia unfavorably. Cecil<sup>12</sup> found that the death rate for all bacteremic cases (Type I, II, and III) was definitely higher than for the cases with sterile blood cultures.

Tighlman and Finland<sup>13</sup> analyzed 1,586 cases of lobar pneumonia associated with specific pneumococci of Type I to XXXII (Cooper) in which cultures of the blood were made during the acute state of the disease or at autopsy. In their extensive and interesting study they found that for each type the death rate in the cases in which the blood cultures were positive was two or more times as high as in the cases in which the blood cultures were sterile, and for all types it averages almost three times as high. There were 118 cases of Type III lobar pneumonia with septicemia in their series with a mortality rate of 98 per cent. One hundred and forty four cases of Type III lobar pneumonia with negative blood cultures showed a mortality rate of 40 per cent. Solomon and Curphey<sup>14</sup> have stressed the importance of the blood culture in the diagnosis of streptococcus septicemia as a late complication of pneumococcus lobar pneumonia, when other causes for rise in temperature have been ruled out. The importance of this test from a prognostic standpoint is impressive inasmuch as seven out of eight patients with this complication died.

In lobar pneumonia, blood cultures are always not only necessary for prognosis but frequently they are necessary for diagnosis. This is borne out most strikingly in this case, where the throat swab and sputum revealed Group IV pneumococci, while the blood culture showed a heavy growth of Type III. Doskof<sup>15</sup> at the Meadowbrook Hospital reported a similar occurrence. A patient recovering from a nonspecific infection of the throat whose temperature was flat at  $89^\circ\text{F}$ , had a sudden chill, temperature  $104^\circ$ , and pain in the right chest on breathing

Physical signs at the right base were suggestive, the sputum sent to the laboratory for typing revealed Group IV pneumococci. A blood culture was taken routinely.

The next morning the laboratory reported the blood culture to contain a pure growth of Type II pneumococci. Intravenous treatment was immediately instituted with New York State Type II serum and in 12 hours the temperature fell from 104° to normal. Type II septicemia has a mortality rate of 76 per cent.

In the spring of 1938 a twenty-five-year-old Negro was admitted with a right lower lobe pneumonia of twenty-four hours duration and a temperature of 104°. The sputum contained Group IV pneumococci.

The routine blood culture revealed a Type I septicemia. Eight hours after the administration of 150,000 units of New York State Type I serum the temperature was normal and the clinical course was uneventful.

## Summary

1 A severe case of Type III lobar pneumonia and septicemia, a disease which carries a mortality rate of 98 per cent, is reported having recovered after the blood stream had been sterilized by a new chemotherapeutic agent—sulfanilyl-sulfanilamide (Disulon).

2 Blood cultures are necessary frequently as diagnostic procedures, always for prognosis. Where the sputum typing may be of no assistance in diagnosis, the blood culture may reveal an infection which can be specifically treated. The early diagnosis may mean the difference between death or recovery.

3 The importance of careful laboratory evaluation of atypical material is stressed.

4 Sulfanilamide and sulfanilyl-sulfanilamide (Disulon) did not influence the clinical course in a small series of Group IV pneumonias.

5 New chemotherapeutic agents should be used with caution, until clinical evaluation is complete.

## Bibliography

- 1 Hoerlein H. *Proc. Roy. Soc. Med.* **29** 313 (1936).
- 2 Rosenthal Sanford M. *U S P H Reports* **52** (No. 2) 48 (Jan. 8) 1937.
- 3 Cooper, F. B., Gross P. and Mellon, R. R. *Proc. Soc. Exper. Biol. & Med.* **36** 148 (March), 1937.
- 4 Gross Paul and Cooper, F. B. *Proc. Soc. Exper. Biol. & Med.* **36** 225 (March) 1937.
- 5 Heintzelman, J. H. L., Hadley P. B. and Mellon R. R. *Am. J. Med. Sci.* **193** 759 (June), 1937.
- 6 Millett J. *N Y State J. Med.* **37** 1743 (Oct. 13) 1937.
- 7 Gray, W. H., Buttle, G. A. H. and Stephenson, D. *Biochem. J.* **31** 724 (May) 1937.
- 8 Rosenthal S. M., Bauer H., and Branham S. B. *U S P H Reports* **52** (No. 21) 662 (May 21), 1937.
- 9 Barlow O. W. *Proc. Soc. Exper. Biol. & Med.* **37** 315 (1937).
- 10 (a) Cecil R. L., Bullowa J. G. M., Chickering H. T., Corwin E. H. L. *J. A. M. A.* **109** (17) 1032 (Oct. 23) 1937.

- (b) Bullowa J. G. M. and Wilcox, C. *J. Clin. Invest.* **15** 711 (Nov.), 1936.
- (c) Finland Maxwell, and Tighlman N. E. *J. Med.* **215** 211 (Dec. 24), 1936.
- (d) Rosenblueth M., and Bloch M. *Arch. Int. Med.* **60** (No. 4) 567 (Oct.), 1937.
- (e) Finland M., Rueggsegger, J. M., Dowling H. F. and Tighlman, R. C. *A. J. M. S.* **193** 48 (Jan.), 1937.
- (f) Finland M., Tighlman R. C., Rueggsegger, J. M. and Dowling, H. F. *A. J. M. S.* **193** 59 (Jan.), 1937.
- (g) Bullowa, J. G. M., and Greenbaum, E. *Arch. Int. Med.* **60** (No. 1) 179 (Aug.), 1937.
- 11 Horsfall, F. L., Goodner, K., MacLeod C. N. *N Y S J M* **28** (No. 45) 245 (Feb. 15), 1937.
- 12 Cecil, R. L., Plummer N. and McCall. *Am. J. Med. Sci.* **191** (No. 3) 305 (March), 1936.
- 13 Tighlman R. C. and Finland, M. *Arch. Int. Med.* **59** (No. 4) 602 (April), 1937.
- 14 Solomon, S. and Curphrey T. *J. A. M. A.* **108** (No. 3) 187 (Jan. 16), 1937.
- 15 Doskof S. W. *N Y S J M* **37** (No. 9) 884 (May 1) 1937.

## THE RHEIN MEMORIAL LECTURE

Dr. Walter E. Dandy, Adjunct Professor of Neurological Surgery, The Johns Hopkins University Medical School and Hospital, Baltimore, Md., has been selected to deliver the Rhein Memorial Lecture before the Pathodontia Section, First District Dental Society, New York City, at the Academy of Medicine, 2 East 103d Street, on January 16.

## Lecture title "Pains in the Head and Face"

An informal dinner in honor of the essayist will be given at the Academy of Medicine prior to the scientific session. Time 6:30 P. M.

Dining accommodations at the academy are limited. To avoid disappointment please mail your reservation and check for \$1.50 immediately to Dr. Daniel M. Kollen, Secretary, 24 West 59th Street. Telephone Wickersham 2-2670.

# TONICS AND SEDATIVES IN NEUROLOGIC PRACTICE

HUBERT S. HOWE, M.D., New York City

THE term "tonic" has a rather nebulous meaning and the common question, "Doctor, what is a good tonic?" is about as easily answered by a physician as the query, "What is a good tool?" would be by a mechanic.

A tonic measure may be defined as an undertaking designed to produce a normal degree of vigor and well being.

Before effective tonic measures can be applied it is necessary to determine the cause of the depletion and lack of stamina. Is the cause of the patient's frailty a constitutional disease or local infection, the depletion following an illness, an anemia, malnutrition, vitamin deficiency, or an abnormal mental state?

The purpose of this paper is primarily to describe briefly the so-called tonic and sedative remedies of use in neurologic practice, with some reference to their indications, contraindications, and idiosyncrasies.

## Tonics

When the specific indication for a tonic is not clear, refuge is frequently taken in the syrup of hypophosphites. The virtue of the hypophosphites seems to have little pharmacologic basis, but they have the value of popular conviction, a virtue which cannot be entirely disregarded.

The accelerated metabolism and heightened nervous irritability produced by thyroid overcome fatigue and produce a feeling of increased efficiency welcomed by many debilitated individuals. Patients with a mild depression severe enough to interfere with the pursuit of their occupation may be sufficiently stimulated by thyroid so that they can return to work. Small doses of thyroid will cause an increase in physical vigor and mental activity, but thyroid should not be used for this purpose except for periods of short duration. Thyroid administration causes an increased excretion

of calcium and magnesium and may thus produce a negative calcium balance. Instances of thyroid addiction are occasionally encountered, and, while easily recognized, if the symptoms are pronounced may escape detection when the complaints are mainly excitability, lack of stamina, and an increased tendency to fatigue.

Intravenous injections of suprarenal cortex hormone have been recommended by Leyton for the treatment of debilitated individuals with low temperature, blood sugar, and blood pressure. I have had no personal experience with this preparation as a tonic, but have never observed benefit resulting from the use of suprarenal gland substance by mouth.

The tonic action of insulin is of value for increasing the weight of persistently thin people. For this purpose ten units is given fifteen to thirty minutes before each meal. This must, of course, be accompanied by a liberal diet. Insulin is not as valuable in producing a weight increase in individuals of normal standard as in those who are underweight.

Strychnine has considerable value in increasing muscular tone and the activity of the spinal reflexes. It is useful therefore in weakness of the bladder and rectal sphincters due to lowered activity of their respective centers in the spinal cord and in the impotence encountered in individuals using alcohol or barbituric preparations.

Strychnine is of value in some debilitated patients with poor muscular tone and decreased deep reflexes. The sulphate is the salt usually employed, but ordinarily in insufficient dosage. The average single dose should be  $\frac{1}{30}$  of a grain, with  $\frac{1}{4}$  (one-quarter) grain as the maximum daily dose.

Caffeine is of value as a stimulant for some depressed and debilitated individuals. The depression experienced on

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 11, 1938*

awakening after the use of hypnotic drugs, overindulgence in alcoholic stimulants, or the low spirits of patients with a depressive psychosis are alleviated by two or three grains of caffeine citrate administered on awakening

Caffeine is of some use for the prevention of the dizziness, disturbances of consciousness, or convulsive attacks of cerebral arteriosclerosis. In clinical experience caffeine causes little if any elevation of blood pressure and is not contraindicated in hyperpiesis.

In doses of 5 to  $7\frac{1}{2}$  grains caffeine citrate is of use for the relief of the fatigue type of headache and also for the alleviation of some cases of migraine.

Caffeine has a stimulating effect on the centers of the spinal cord exactly similar, but not as pronounced, as that of strychnine.

Benzedrine sulphate is an important stimulant. It has a distinct effect on the vegetative nervous system and particularly upon the pulse rate and blood pressure. Individuals who do not take this drug constantly may have an increase in blood pressure (both systolic and diastolic) of 10 to 30 mm which does not return to normal for several hours. On continued administration less marked or negligible elevations occur. The pulse rate acceleration averages 20 to 40 beats, and continues high after constant administration for many months. Many patients are aware of palpitation and state that exertion which did not formerly produce fatigue and dyspnea is noted while they are using benzedrine. Diminished tone is noted in the gastrointestinal tract. Many patients complain of its constipating effects, whereas the spastic and cramp-like contractions are relieved. A loss of appetite and dryness of mouth are frequently experienced.

The principal beneficial effects are due to its psychic action, which are frequently dramatic. Subjectively there is a change of mood, which tends to euphoria. The patient notes increased self-confidence, initiative, and mental poise. Depression is lessened and there is a pronounced

impulse to talk. The processes of thought are accelerated and some patients complain of a blunting of memory for recent events. Stimulation of the cerebral centers produces insomnia and restlessness. Sargent and Blackburn have shown an improvement of intelligence test scores, and Bradley has observed better performances in children with behavior disorders.

Many individuals are unable to take benzedrine, as even small doses (5 mg) produce extreme nervousness, palpitation, vertigo, and excitement which have been described by one patient as "going crazy." It is recommended in narcolepsy, depression (without anxiety or restlessness), exhaustion, seasickness, for the sleep disorders, oculogyric crisis and tremor in patients with encephalitis, and as a substitute for alcohol in chronic alcoholism. The euphorizing effects are lessened on continuous administration, but many patients find them sufficiently desirable to continue its use for many months. No instance of true addiction has come to my attention, though many authors express warnings of this possibility.

Benzedrine should not be used indiscriminately or without observation of the patient. It is a comparatively new drug and there is much to be learned about it.

Further experience will doubtless show its value to be principally in occasional use.

The most important of all tonics is a well-balanced diet. Of all animals man has probably the poorest diet as the food consumed depends almost entirely upon the caprices of his appetite. Barring accidents, longevity is principally a matter of nutrition. Biologists attribute the long life of the Sequoia trees in California to the fact that in that locality they have been able to obtain sufficient rootage to furnish the necessary nourishment. A diet having an energy value of 3,000 calories should contain 398 grams of carbohydrate, 112 grams of fat, and 90 grams of protein. In caloric percentage this is stated as carbohydrate 53 per cent, fat 35 per cent, and protein 12 per

cent. In addition to these main constituents it should contain 3,000 to 5,000 International Units of vitamin A, 200 International Units of vitamin B, 250 International Units of vitamin C, and an undetermined amount of vitamin D. The calcium intake should be 90 gram, phosphorus 1.25 grams, and iron 15 to 20 mg. Wolff determined that 16 per cent of the population of the Netherlands and 24 per cent of those suffering from chronic diseases have definitely subnormal vitamin A reserves. Bernheim, from studies of the average diet in America and Waller, from observations of the diets of the 'poorer classes' in England, believe that calcium deficiency is frequent and has serious consequences. A more or less continued hunger and fatigue may be experienced by a diet too high in carbohydrates with insufficient fat. This latter form of unbalanced diet is encountered in many of our women patients. They are continually hungry and are always eating between meals. The cure of this condition consists in a balanced diet with adequate fat content and no indulgence except at regular meal times.

Lack of appetite and atony of the gastrointestinal tract is a well known result of vitamin B deficiency. Individuals with gastrointestinal atony, and particularly those with an achlorhydria, may suffer from vitamin deficiency in spite of an adequate intake. This was first demonstrated by Hurst and Bell, who found that some individuals with subacute combined sclerosis could be cured by the administration of hydrochloric acid.

Vitamin B<sub>1</sub> has recently been so lauded in the daily press that one would believe it to be a new elixir of life, and the appreciation of its true value may suffer some from the extravagant claims made for it. Nevertheless, vitamin B<sub>1</sub> is of value in the relief of anorexia and it also aids in the utilization of food. It is of advantage in promoting the normal growth in infants and essential in the prevention and treatment of some forms of polyneuritis.

Vitamins are only of use, however,

when there is a deficiency, but excessive intake has been shown to be harmless (except for the toxic effects associated with vitamin A sources).

The soluble calcium ions are present in all the body tissues, and have an important function in maintaining the proper permeability of the cell membrane and the normal neuromuscular excitability. Calcium deficiency gives rise to poor appetite and defective nutrition, as well as increased neural and muscular irritability.

Many high strung, nervous patients, who have hyperactive reflexes, crave stimulation. They frequently overindulge in coffee and caffeine-containing beverages, take thyroid or stimulating hydrotherapy. Some of these individuals are benefited by taking calcium although the calcium level in the blood is normal.

### Sedatives

Sedatives and hypnotics are among the most frequently prescribed remedies, and pharmaceutical firms keep offering new synthetics and new compounds with bewildering rapidity. Practicing physicians have considerable difficulty in determining the desirable and undesirable effects of these preparations. I will attempt therefore to outline briefly some of the important characteristics of this group.

Bromides were discovered by Balard in 1826 and Graf in 1840 introduced them into medical therapy. Though the pharmacologic action of bromides has been well known for over half a century, I believe that the general practitioner of today is not well informed as to the disadvantages and dangers of this drug.

An investigation in 1928 of 52,000,000 prescriptions issued under the English national health insurance medical scheme demonstrated that about one tenth of these prescriptions contain bromide as the principal ingredient, and that bromide ranked fifth in the list of the most commonly prescribed drugs. It was surpassed only by sodium bicarbonate, ammonium carbonate, sodium salicylate,



and tincture of *nux vomica* Reports of admission to mental hospitals show that bromides cause an appreciable percentage of the toxic psychoses, and there is little question that the bromides prescribed by physicians and consumed in proprietary nostrums produce much chronic ill health

Bromides act by replacing the chlorides of the body and this accounts for the fact that a single dose of 20 to 30 grains will have no effect in a normal individual The principal effect of the bromides is a reduction of the irritability of the motor area of the brain In ordinary doses bromides have almost no sedative action upon the intellectual functions In higher concentrations in the blood they have a slight hypnotic action, but this is due entirely to a blunting of the general sensibilities so that the patient is less distracted by extraneous stimuli

Barbour, Pilkington, and Sargent demonstrated that fatal intoxication occurred in rabbits when bromide replaced 40 per cent of the chlorides These authors believe that it is impossible to accurately correlate symptoms with the bromide levels in the blood, but are of the opinion that quantities less than 100 mg per cent do not cause toxic symptoms Between 100 and 200 mg per cent toxic symptoms are likely to occur in patients with impaired cardiovascular and renal efficiency, and bromide levels above 200 mg per cent produce toxic manifestations in most instances One of the most serious features of bromide administration is the difficulty in ascertaining the proper dose The rate of substitution of bromides for the chlorides depends upon four factors, viz, the bromide intake, the chloride intake, the water intake, the renal efficiency As three of these factors usually are undetermined the actual dose of bromide retained by the patient is unknown Continued administration of bromides has decided dangers if given in doses which have sedative effects and their use should be controlled by frequent determinations of the bromides and chlorides of the blood Bromides should never be administered to elderly patients or to

individuals with arteriosclerosis or impaired kidney function, as under these circumstances excretion is lessened and lower levels of bromide retention produce confusional states and other toxic and psychotic manifestations

Were bromides the only sedative at our disposal there would be reasons for their use, but as we have much more efficient and less dangerous remedies we should welcome the day when bromides are as little used for sedation as chloroform is for anesthesia

In an effort to overcome the toxic effects of the inorganic bromides a number of organic bromine compounds are supplied Brometone and Calbroben or Sabromin are those most frequently used The sedative effects of these drugs does not depend entirely upon the bromine content as they are effective in smaller doses than the alkaline bromides Large doses of Calbroben are said to have injurious effects on the kidneys and none of these preparations are beneficial in convulsive states They are useful as sedatives for individuals who have idiosyncrasies for the barbiturates

Chloral hydrate is a valuable sedative and hypnotic which is not used as frequently as it should be Being very soluble it is readily absorbed and the initial effects are manifest in five to ten minutes, and even sooner with large doses The sleep produced by chloral more nearly resembles physiologic sleep than that induced by any other hypnotic drug While under its influence the patient is easily aroused, and on awakening does not have the lethargy noted with other drugs In doses of 15 to 30 grains there is slight slowing of the pulse and respiration, and lowering of the blood pressure and temperature, but little if any more than is present in normal sleep The principal disadvantages are the pungent taste and gastric irritation which definitely contraindicates its use in gastric ulcer Large doses, viz, over 45 grains, are required to produce sleep of more than three or four hours' duration and to quiet excitement Doses of this magnitude do depress the vasomotor and

respiratory centers and should be used with caution. When chloral is administered during the day as a sedative the possibility of addiction should always be kept in mind. When used as a hypnotic the preferable method is to give an amount which will induce sleep for three or four hours and then to repeat the dose, rather than prescribing a single dose large enough to produce sleep of much longer duration. The average fatal dose is 150 grains and the average anesthetic dose is 50 grains, which gives a wide therapeutic margin.

Paraldehyde has two principal indications. First as a comparatively safe hypnotic in acute mania, delirium tremens and other agitated conditions which would otherwise require dangerously large doses of chloral or barbiturates. Second for the relief of status epilepticus, whether idiopathic, uremic, eclamptic, or the spinal convulsions of strychnine poisoning. In these conditions paraldehyde administered by rectum is a most valuable remedy. It should never be administered intravenously as thromboses are likely to occur. Continued administration as either a sedative or hypnotic is dangerous as personality changes may occur, as well as loss of appetite, dyspepsia, muscular weakness, and tremors. Addiction is easily produced and its results are serious, frequently ending fatally in three or four hours.

In 1903 Emil Fischer and von Mering introduced diethylmalonylurea (or veronal) as a sedative and paved the way for the large group of ureides which comprise the principal sedative and hypnotic agents used at the present time.

There are two principal groups of ureides, the acetylurea derivatives comprising Brom diethyl acetylurea (Carminal or Adalin), Acetyl brom-diethyl acetylurea (Abasin), and Allyl isopropyl-acetylurea (Sedormid), and the larger malonylurea group which are the barbiturates. There is one valerylurea derivative, viz., Alpha monobrom iso-valerylurea (Bromural).

The acetureides and the valeralurea

derivatives seem to be quite similar in action. It will be seen that three of these preparations contain bromine, but the bromide ion is present in comparatively small quantity and in therapeutic doses can have no appreciable action. These drugs are said to have no notable action upon the gastrointestinal, genitourinary, respiratory, or circulatory systems when used in recommended doses. The principal advantage of these preparations is their mild sedative and hypnotic action without depression or other unpleasant results. Thrombocytopenic purpura occasionally follows the administration of allyl isopropyl-acetylurea (Sedormid)—(Hoffman, Kahn, and Fitzgibbon).

The malonylurea or barbituric acid derivatives are the principal sedative and hypnotic drugs used at the present time. The acids themselves are but slightly soluble in water and their hypnotic properties are about double those of their salts. The salts are readily soluble in water, but these solutions are unstable. Barbiturates are incompatible with chloral hydrate, acids and ammonium salts, and as a rule they should be administered alone.

The principal advantage of this group may be summarized briefly. They are useful in reducing nervousness and promoting sleep, in reducing the frequency of convulsive seizures, and for the production of partial or complete anesthesia. Serious local irritation is not produced, and administration may be by the oral, rectal, or intravenous routes. The effect starts within twenty to thirty minutes on oral administration, in less time when given rectally (when in solution), and immediately when introduced by vein. When used in therapeutic dosage there is no serious disturbance of respiration, circulation, or smooth muscle action, and the after effects are not particularly unpleasant or distressing.

#### Pharmacological Action of the Barbiturates

*Effect on Respiration*—The respiratory system is depressed, even by hypnotic doses. The rate may be diminished,

though it is frequently increased, and the excursion is more shallow. In prolonged, deep narcosis, cyanosis frequently occurs and there may be pulmonary edema. Toxic doses produce death either by paralysis of respiration or more frequently by pulmonary edema and subsequent pneumonia. If administered intravenously, unless given slowly, death may be produced by respiratory paralysis even in hypnotic doses. Featherstone stressed the risk of using the barbiturates as basal anesthetics in the presence of catarrhal conditions of the bronchial and upper air passages.

*Effect on Circulation*—There is a fall in the systolic blood pressure within the first two hours after administration. This is usually unimportant, but severe drops have been reported in individuals with hypertension or following rapid intravenous introduction of the soluble barbiturates. The pulse rate is increased and may be 100 or over in individuals taking barbiturates in the day as well as at night. Dilatation of the peripheral vessels occurs and capillary permeability is increased. The tonus of the heart muscle is decreased. This is sufficient to produce decompensation when patients have taken barbiturates in large doses for extended periods. I have seen alarming symptoms produced by a single dose of sodium amytal in a patient with myocardial insufficiency.

*Effects on Blood Chemistry*—Blood calcium and phosphorus are decreased. The carbon dioxide tension is increased as a result of the respiratory depression, but the carbon dioxide combining power is unaffected.

*Effect on Genitourinary Function*—A slight decrease in the urinary output is noted for six to twelve hours but returns to normal later. This fact may be utilized in patients with troublesome nocturia. There is no evidence of renal damage except in cases of fatal poisoning. Willcox reports four cases of fatal urinary suppression following doses of less than 10 grains of nembutal. The smooth musculature of the bladder is relaxed and there is inhibition of voluntary urination.

Large doses of the barbiturates frequently make catheterization necessary. Even small doses of barbiturates may produce impotence through inhibition of the spinal reflexes.

*Effects on the Gastrointestinal Tract*—The tone of the smooth musculature of the gastrointestinal tract is relaxed. The emptying time of the stomach is delayed and the barbiturates may cause indigestion if administered immediately before or after meals. Postanesthetic nausea and vomiting are diminished when anesthesia is preceded by barbituric medication. It is well known that the barbiturates are the most effective drugs to control the pain and vomiting in the gastric crisis of tabes. Secretions of the gastric and other digestive juices are inhibited. On account of this effect, Zerkow has recommended the use of the barbiturates in the treatment of gastric and duodenal ulcer.

*Effects on the Skin and Mucous Membrane*—The sensitiveness of the cornea and mucous membrane of the pharynx is diminished. For this reason the barbiturates are of use in reducing coughs produced by pharyngeal irritation. Many types of skin eruptions may be produced by the barbiturates. The most frequent are urticaria, morbilliform or scarletina-form erythema, macular, vesicular, or bullous eruptions. Phenobarbital and some of the other members of this group may produce necrotic ulcers of the mouth and tongue. Poole reports desquamative dermatitis with sloughing, necrosis, edema, and leucocytic infiltration of the bronchial mucosa in fatal barbiturate poisoning. Skin eruptions seem to be most common in individuals with an allergic tendency. Individuals allergic to protein substances are frequently allergic to drugs. The important difference between drug allergy and protein allergy is that drug allergy exists to only one chemical group (for example the phenyl or ethyl group), and not to the entire molecule as is the case with protein sensitization. Therefore a person allergic to one barbiturate may take another derivative with impunity, providing it does not contain the allergic

principle In my experience skin eruptions more frequently result from barbiturates containing the ethyl radical, as barbital, phenobarbital, and maytal, than from those which do not, as for example alurate and dial

*Effects on Metabolism*—Dameshek, Loman, and Myerson found that sodium amytal produced a rapid and marked fall in basal metabolism The average fall was 26 per cent, with a range from 7 to 70 per cent. The utilization of oxygen and dextrose by the brain is definitely diminished The average fall in temperature was 1.1 F Underhill and Sprunt found a distinct hyperglycemia in rabbits anesthetized with sodium amytal Weiss determined this hyperglycemia to be 80 to 150 per cent in the dog, and 100 to 250 per cent in the cat. Metabolism of glycogen in the liver is reduced 50 per cent by sodium amytal anesthesia (Hines, Leese, and Barer) Fontes and Trivolle demonstrated a marked hypoglycemia resulting from the use of allyl isopropyl barbituric acid (alurate)

*Effects on the Nervous System*—The presence of barbiturates in the nervous system have been demonstrated by many workers In the brain it has been found, particularly in the midbrain and thalamus, which areas are of significance in the production of sleep Barbiturates have been found in the medulla, and particularly in the spinal cord, which doubtless accounts for the changes in the reflexes and ataxia Even small doses of the barbiturates may produce vertigo, muscular inco-ordination, nyctagmus, and double vision The pupils are at first somewhat dilated, but in stupor are contracted and less responsive to light. The deep reflexes are at first exaggerated but later are diminished or absent. Absent ankle jerks are not infrequently found in individuals who take barbiturates continuously In deep narcosis Babinski reflexes may be present, the rectal sphincter may be relaxed, and the diminished bladder tone and absence of the micturition reflex make catheterization necessary When phenyl, ethyl, or

methyl groups are combined in the formation of a barbiturate, the resulting drug has special action on the motor cortex which inhibits cerebral convulsive seizures (phenobarbital, mebaral, and rutilonal)

Psychologic effects of small doses of the barbiturates are of considerable interest and importance. Sedative doses of the barbiturates, particularly phenobarbital and amytal, give definite changes in the emotional sphere. Fear and apprehension are decreased and there is a feeling of serenity and well-being Expression becomes freer and assumes a sense of warmth and even inspiration Self absorption is decreased and a friendly outlook is promoted

*Disadvantages, Idiosyncrasies, and Toxic Effects*—The pharmacologic response to barbituric medication is rather variable, not alone in different individuals, but in the same individual at separate times The hypnotic stage may be preceded by stimulation and excitement, which in the short action group may proceed from inebriation even to delirium The idiosyncrasies encountered are mainly symptoms of acute or chronic intoxication, but induced by doses which are ordinarily innocuous In my experience the alarming symptoms are most frequently encountered in individuals with myocardial weakness, respiratory difficulties, arteriosclerosis, very high or low blood pressure, or in children Toxic symptoms may be acute or chronic Serious acute symptoms may be a marked fall of temperature and blood pressure, depression of respiration with cyanosis and pulmonary edema, or respiratory paralysis. Chronic poisoning occurs when the longer acting barbiturates are administered at too frequent intervals The most prominent manifestations of chronic poisoning are mental symptoms, which may be excessive fatigue, debility, and retardation, impairment of ethical and moral appreciation, with muscular inco-ordination and speech defects, epileptiform convulsions may occur, or an acute toxic psychosis with confusion, hallucinations, and excitement.

*Pathologic Changes in Fatal Cases*—The depression of cell function caused by the hypolytic narcotics is believed to result from alterations in the colloidal systems of the cell surface. In narcotic concentration these alterations result in a definite decrease in the permeability of the cell membrane. Toxic concentrations of narcotic drugs increase the permeability of the cell membrane and thus alter the cell substance which may become disorganized, injured, or killed. The pathologic findings in fatal cases of barbiturate poisoning are in general what would be expected of an agent which causes an increased permeability of the cell membrane and destruction of the cell protoplasm. These findings as reported are cloudy swelling of the parenchymatous organs with perivascular hemorrhages. Small hemorrhages are found particularly in the brain, heart, lungs, kidneys, liver, and the submucosa of the gastrointestinal tract. The cells of the cerebral cortex, brain stem, and cerebellum show an absence of Nissl bodies and other evidences of disintegration including rupture of the cell membrane and the presence of granular products of degeneration. Congestion of the lungs is a constant finding and usually there are evidences of bronchopneumonia.

A full description of the individual properties of each of the barbiturate preparations is not within the scope of this paper, but a brief statement of some of the little emphasized advantages or disadvantages may be given.

Isopropyl-ethyl barbituric acid (Ipral) is the least hypnotic of the barbiturates, and complete recovery from the sedative effects is delayed longer than any other member of this group. The anesthetic dose is about 80 per cent of the fatal dose, and continued administration of small doses frequently produces stuttering.

Isoamyl-ethyl barbituric acid (Amytal) causes increased muscle tension and has the tendency to produce tremor in

normal individuals. When administered to patients with paralysis agitans it lessens the tremor of the disease by greatly increasing the rigidity. This rigidity may be so marked that the patients are rendered completely helpless.

Cyclo-hexyl-ethyl barbituric acid (Cyclobarbitol, Phanadorn) is an effective hypnotic, though somewhat variable in action. It has less depressing effects upon respiration and has the least tendency of any of the barbiturates to produce muscular rigidity and trembling.

The sodium salt of normal hexyl-ethyl barbituric acid (Ortal Sodium, Hebaral Sodium) has very little hypnotic effect in recommended dosage but it is a good euphoric sedative.

Diallyl barbituric acid (Dial) has pronounced toxic effects. Transient vertigo and nausea are frequent. Tolerance rapidly develops but there is much individual difference in tolerance and action. Toxic doses cause muscular inco-ordination and trembling, convulsions, and delirium.

Sodium propyl-methyl-carbonyl-allyl barbiturate (Seconal) is an excellent short action hypnotic. The sleep induced by  $1\frac{1}{2}$  to 3 grains of this drug is of very brief duration, but there is no depression of other unpleasant after-effect. Tolerance is not easily acquired.

The therapeutic breadth or therapeutic index is the figure obtained by dividing the minimal fatal dose by the minimal anesthetic dose. The results of these experiments vary somewhat, depending upon the animals used and on other conditions. Nevertheless, these figures give some idea as to the comparative safety or dangers of these preparations. A list of the therapeutic indices of the principal barbiturates in order of decreasing toxicity is as follows:

| Chemical name  | Trade name                    | Index |
|--|-------------------------------|-------|
| Isopropyl-ethyl barbituric acid                                      | Ipral                         | 1 22  |
| Phenyl-ethyl barbituric acid   | Phenobarbital, Luminal        | 1 5   |
| Diethyl barbituric acid  | Barbital Veronal              | 1 63  |
| Sodium ethyl (1 methyl butyl) barbiturate                            | Phenobarbital Sodium Nembutal | 1 7   |
| Sodium isoamyl-ethyl barbiturate                                     | Amytal Sodium                 | 1 79  |
| Sodium salt of secondary isobutyltetra brom propynal barbituric acid | Pernoston                     | 2 1   |
| N methyl-ethyl phenyl barbituric acid                                | Mebaral Prominal              | 2 3   |
| N butyl-ethyl barbituric acid  | Neonal Soneryl                | 2 3   |
| Allyl isopropyl barbituric acid                                      | Alurate                       | 2 43  |
| Cyclo-hexyl-ethyl barbituric acid                                    | Cyclobarbital Phnadorn        | 2 44  |
| Isoamyl-ethyl barbituric acid  | Amytal                        | 2 45  |
| Diallyl barbituric acid  | Dial                          | 2 5   |
| Sodium propyl methyl-carbinyl allyl barbiturate                      | Seconal                       | 2 7   |
| Sodium N methyl-cyclo-hexenyl barbituric acid                        | Cyclural Evipal Evipan        | 3 3   |
| Sodium hexyl-ethyl barbiturate                                       | Ortal Sod Hebaral Sod         | 4 0   |

A glance at these figures shows that the minimal anesthetic dose of the first five of these preparations is uncomfortably close to the minimal fatal dose

In classifying the barbiturates I would like to divide them into three groups

1 Barbiturates useful as sedatives

Phenyl-ethyl barbituric acid (Phenobarbital) in doses not exceeding 3 grains daily

N methyl-ethyl phenyl barbituric acid (Mebaral) in doses not exceeding 6 grains daily

Allyl isopropyl barbituric acid (Alurate)

Sodium hexyl-ethyl barbituric acid (Ortal Sodium)

2 Barbiturates useful as hypnotics

Isoamyl-ethyl barbituric acid and the sodium salt (Amytal and Sodium Amytal)

Cyclo-hexyl-ethyl barbituric acid (Cyclobarbital)

Sod-ethyl (1 methyl butyl) barbiturate (Phenobarbital Sod Nembutal)

Sodium propyl methyl-carbinyl-allyl barbiturate (Seconal)

N methyl-cyclo-hexenyl barbituric acid (Cyclural Evipal Evipan)

Isobutyl-allyl barbituric acid (Sandoptal)

3 Preparations not recommended for ordinary use because of prolonged action or toxic effects

Barbiturates combined with amidopyrine (Allonal, Paralga, Dormalgin)

Diethyl barbituric acid and its sodium salt (Barbital Veronal Medinal)

Diallyl barbituric acid (Dial)

Isopropyl-ethyl barbituric acid (Ipral)

Sodium salt of secondary isobutyl tetra brom propynal barbituric acid (Pernoston)

Diethyl barbituric acid and allyl isopropyl barbituric acid (Somnifene)

In conclusion I wish to plead for the discontinuance of the use of the inorganic bromides except in convulsive states. As usually prescribed bromides have little or no beneficial action and may cause serious ill health. Chloral hydrate is an excellent sedative and hypnotic and deserves more frequent use. The barbiturates are valuable sedative and hypnotic drugs, but their use should be limited and their indications and toxic effects thoroughly understood. Anesthetic doses are dangerous and require the careful supervision and precautions used in general anesthesia.

115 East 61st Street

## Bibliography

- Barbour, Pilkington R. F. and Sargent. Brit. Med. J. Nov. 14 1936, p. 957-960.
- Bernheim, A. R. J. A. M. A. 100: no 13 1001-1004 (April 1) 1913.
- Bradley C. Amer. J. Psych. 94 577 (Nov.) 1937.
- Dameshek, W. Loman J., and Myerson, A. Amer. J. Psych. 91: 113 (July) 1934.
- Featherstone, H. W. Brit. Med. J. (Feb. 24) 1934 pp. 322-326.
- Fischer, E. and von Merig, J. Therapie der Gegenwart, 8 97-101 (1903).
- Fontes, G., and Trivello, L. Compt. rend. Soc. de Biol. 99: 1077-1078.
- Frethwurst F. Halberkann K. and Reiche F. Munch. med. Woch. 77: 1401 (1930).
- Graf De Kahl Bromatit Effecitates Internat. Dis. Inag. 1933.
- Hines, H. M. Lense C. B. and Barer. Proc. Soc. Exper. Biol. and Med. 28: 730-737 (1928).
- Hoffman, A. M., Kahn J., and Fitzgibbon J. P. J. A. M. A. 110: No 10 725-727 (March 5) 1938.
- Holck, H. G. O. and Cannon, P. R. J. Pharm. & Exper. Therap. 57: 128 (June) 1936.
- Hurst A. F. and Bell. Brain 45 200-281 Part 1 (1932).
- Leyton, O. Practitioner 1933, pp. 466-472.
- Lindemann B. Am. J. Psych., 90: 1007-1037 (March) 1934.
- Lindemann B., and Malamud W. Am. J. Psych. 90: 853 (Jan) 1934.

- Love, R J McNeill Brit. Med J, Feb 24, 1934, p 327
- Lundy, J S, and Osterberg A E Staff Meetings of the Mayo Clinic, 4. 386-410 (1929)
- Marks, H. E Med J & Rec., 135 231-234 (1932)
- Mutch, N Brit. Med. J., Feb 24, 1934, pp 319-322
- Poole, A. K. Yale J Biol & Med, 1. 345-351 (1929)
- Sargent, W., and Blackburn J M Lancet, 11 1385-1387 (1936)
- Schulzter, P Lancet, 11 589-590 (1933)
- Sherman H. C, Mettler, and Sinclair Exp Stat. Bull., p 277 (1910)
- Underhill F P and Sprunt D H Proc Soc Exper Biol & Med, 25 137-138 (1927)
- Waller, L W Brit Med J, Jan 8, 1933 pp 59-64
- Willcox, W W Brit Med J, March 10, 1934, pp 416-418
- Willcox W W Brit. Med J, Jan 28, 1933, p 144
- Wolff, L K Lancet, 11 589-590 (1933)
- Zerfas, L G Brit. Med J 11 527 (Sept 27), 1930

## Discussion

HAROLD T HYMAN, M D, New York City — Dr Howe has clearly delineated a most comprehensive and practical discussion of the use of the tonic and sedative drugs in neurologic practice. There are a few variants that might merit a word of discussion

In the use of thyroid extract as a tonic, I am insistent on estimations of the basal metabolic rate. I do not prescribe thyroid extract, except in rare instances, unless the rate is depressed. I insist upon check-up rates to alter to a maintenance dosage that amount which is necessary to correct the obviously low rate. Only in this way, may adequate dosage be insured and toxic symptoms prevented. Apart from the classically obese flabby hypothyroid group, there is a second viscerotonic asthenic group, strikingly underweight, who paradoxically not infrequently has a low basal metabolic rate. Such patients may also have amenorrhea, oliguria, and sterility, and are sometimes referred to the internist by the gynecologist. These patients, I believe, may best be classified as forme fruste of pituitary cachexia. The basal metabolic rate is often done with the expectation of finding that it will be high and, to our great amazement, it will be found significantly low, and thyroid extract may be prescribed with tonic and adjuvant effect.

I can also confirm what Dr Howe has said about the use of hypophosphites, glycerophosphates, glycerophosphates, and arsenicals such as cacodylate of soda. Pharmacologically, they are completely inert and may well be classified as useless drugs. In the early years of my practice, I prescribed them through sheer despair and as a placebo. While the tonic effect of these drugs is by no means constant, it is certainly commented upon with sufficient frequency by patients so that I gain the impression that there must be some beneficial metabolic alteration that occurs of which we are still ignorant.

The use of suprarenal cortex in any form is completely disappointing, as Dr Howe has re-

ported, but I can confirm his favorable results, particularly in the underweight asthenic patient, from small doses of insulin.

Personally, I never use strychnine, caffeine, or benzedrine sulfate as tonics. In point of fact, I am opposed to their use, for I think that this type of artificial stimulation is a mirage and holds much greater potential for damage than benefit.

The use of the balanced diet with particular emphasis on high vitamin intake, both in the diet and artificially, I can confirm with great vigor. This is particularly true in alcoholics and those foolish females, of whom we all see our share, whose goal with regard to their weight and figure seems to be the approach to the appearance of tuberculous cachexia.

To the tonic preparations that Dr Howe has mentioned, I would add the much more potent tonic measures of exercise either by walking, dancing, the indulgence in sports, or conducted calisthenics, particularly in flabby and overweight individuals.

For the tense, high-strung individual who is enmeshed in situational difficulties, I am a great believer in the old fashioned Wier-Mitchell rest cure, followed by a regimen including physical activity.

I am also a great advocate of the tonic effect of whisky or a cocktail, particularly for older patients, taken some time in the late afternoon.

I have been very much impressed with the tonic effect of ultraviolet radiation, which is now available to patients in their own homes with reasonably low priced sources of true ultraviolet radiation.

With regard to the sedatives, I can echo what Dr Howe has said concerning bromides. I doubt whether I ever prescribe a bromide prescription, mainly because of the great frequency of dermatitis medicamentosa.

Like Dr Howe, I believe that there is still no sedative or hypnotic to compare with chloral hydrate, though I must confess that I use much lesser dosage than does Dr Howe.

Paraldehyde is also a great favorite of mine. It is not used nearly as frequently as it should be used. I believe it is superior in every way to the more widely publicized and expensive preparations such as avertin. I have no fears about its intravenous injection, particularly in the maniacal states that are associated with ominous medical conditions such as pneumonia, nephritis, eclampsia, and the various cardiac psychoses. While nothing can be done about the odor of the drug, its taste may be well and conveniently disguised in ice-cold beer. I have never seen a paraldehyde addict.

Concerning the barbiturates, I have very defi-

nite principles. I never prescribe veronal because of its tendency to addiction. I completely avoid sedormid because of three instances of thrombocytopenic purpura with which I am familiar. I avoid all of the barbiturates except those which have been approved by the Council of the American Medical Association, for I think we should firmly support the Council in its attitude toward these preparations. I think that the by-effects on circulation, metabolism etc. are purely academic in interest except in instances of massive poisoning. I make every effort to

avoid the prescription of any of the barbiturates always trying sedative measures that do not involve the use of drugs. These measures would include exercise, simple hydrotherapy in the ordinary bathtub by means of a luke-warm bath or a shock bath, or a pine needle bath, the use of warm milk at bed time, a quieting massage or the soothing effects of heat in the form of a hot water bottle or an electric pad. These measures, falling a simple chloral preparation in increasing dosage, is probably the least noxious and most effectual prescription.

## DOCTORS SAVE MORE MEN IN MODERN WARS

Another great war in Europe would produce fewer deaths from wounds, fewer maiming in injuries and less disease per man power than in any major conflict of the world's history, military medical experts say.

Despite improvements in the art of killing during the past twenty years, modern medical practice in most countries has advanced even faster, they declare, and physicians and surgeons are better equipped than ever before to prevent illness and care for wounded men.

Among recent advances which would protect the soldier against sickness and care for him when wounded are new vaccines and serums to prevent or aid in curing such diseases as tetanus, poisoning, scarlet fever, diphtheria, and measles, knowledge of food needs to prevent the deficiency diseases, such as scurvy and beriberi, new drugs and anesthetics, improved surgical techniques, particularly in repairing bone and head injuries and in plastic surgery, and fast automobile and airplane ambulances.

Major Isaac J. Frisch, medical corps officer with the Illinois National Guard, declared in an article in *The Military Surgeon*, official journal of the Association of Military Surgeons, that medical science has in its grasp the power to control and crush the diseases which in former wars decimated armies and populations.

Smallpox, typhoid, typhus, dysentery, cholera, malaria and scurvy can be controlled, he added, as well as many other diseases of the camp and battlefield.

Dr. Charles R. Reynolds, surgeon general of the army, added that preventive medicine is our great field. Through advances in medicine it is now possible to salvage more human beings in wartime than ever before.

The new health protective measures would keep more effective men in the field with a lower cost in maintaining hospital and medical facilities behind the lines and a lessened drain on the civilian population for fresh troops. During the World War approximately eighty per cent of all American injured men were returned to duty.

Orthopedic surgery to repair broken bones without malformation has made rapid strides, indicating fewer permanent injuries and many operations on the heart and brain, previously considered impossible, have proved successful. Many such procedures including plastic surgery received their greatest impetus during the World War, army surgeons declared, and have resulted in the saving of thousands of lives in peacetime.

One of the few advantages of war is the rapid development of medicine and surgery during the conflict and immediately afterward, government surgeons agreed.

## RED HAIR AND ANESTHESIA

Speaking at the British Medical Association conference, Dr. C. J. M. Dawkins (London) asked why it was more difficult to maintain a smooth anesthesia with patients with red hair than with those with fair hair or dark hair.

On seeing a patient with red hair come into the gas room, one instinctively prepared for difficulty in maintaining a smooth anesthesia, and this fact was borne out by investigations, as

0.13 per cent of red haired persons required restraint, compared with only 0.05 per cent of fair haired patients and 0.04 per cent of dark haired patients.

Turning to induction time, it was found that fair haired people were induced on an average in fifty two seconds, dark haired people in sixty two seconds, and red haired people in sixty eight seconds.



# BENZEDRINE SULFATE THERAPY

## The Present Status

EDWARD C REIFENSTEIN, JR , A B , M D and EUGENE DAVIDOFF, A B , M D ,  
Syracuse

*From the Department of Psychiatry and the Department of Medicine, Syracuse University College of Medicine, and from the Syracuse Psychopathic Hospital, Dr Harry A Steckel, Director*

We are indebted to Mr Theodore B Wallace of the Smith, Kline and French Laboratories (Philadelphia, Pa) for the benzedrine sulfate employed in our own studies

**D**URING the past two years, benzedrine sulfate—(beta-phenylisopropylamine sulfate) an epinephrine-series derivative which stimulates the central as well as the sympathetic nervous system—has been presented to the medical profession as a therapeutic agent for a variety of physical and mental conditions. A review of the status of the drug is essential in order to (1) clarify the extensive literature which has accumulated, (2) re-emphasize the occurrence of untoward effects, a danger to which we have previously directed attention,<sup>1</sup> (3) discourage physicians from administering the drug indiscriminately for symptomatic relief without adequate supervision or thorough investigation, and (4) particularly stress the fact that many of the reports, still experimental in nature, are unconfirmed and controversial.

Widely disseminated newspaper misinterpretation of such data unfortunately has led to promiscuous and dangerous self-medication by the misinformed layman. Such publicity and its pernicious concomitants cannot be condemned too strongly.

### PHARMACOLOGY

A review of the pharmacology of benzedrine sulfate, particularly in regard to the conflicting data, is a necessary prerequisite for understanding, defining, and limiting the therapeutic application of this pseudo-sympathomimetic drug.

## I Effect on Nervous System and Mental Functions

(a) *Neurological and Mental Status*  
In 1933, Alles<sup>2</sup> observed that benzedrine compounds had a tendency to awaken animals from barbital anesthesia. Shortly after, an insomnia-producing effect was noted in man by Alles and Prinzmetal,<sup>3</sup> and in 1935, Prinzmetal and Bloomberg<sup>4</sup> utilized this effect in the treatment of narcolepsy. Since that time the stimulating action on the central nervous system has been demonstrated by many observers<sup>1,5-24</sup>

In general, the major effects on the mental state of normal individuals include increase in alertness, initiative, general efficiency, motor and speech activity and irritation, elevation of mood, decrease in fatigue, and insomnia. In addition, we have observed<sup>1</sup> with some regularity paradoxical effects such as increase in fatigue, depression, agitation, dullness, transitory delirium, dizziness, and vasomotor reactions. In general, increase in motor and speech activity was more pronounced than elevation of mood. Bradley<sup>16</sup> found that the drug had the apparently paradoxical effect of subduing children with aggressive behavior traits. From a study of the toxic effects produced by prolonged continuous inhalation, Waud concluded<sup>25</sup> that the stimulation of the central nervous system is striking but relatively temporary, and is always followed by marked fatigue and mental depression when toxic doses of benzedrine are absorbed.

(b) *Intelligence tests* Objective stud-

*Read at the Annual Meeting of the Medical Society of the State of New York, New York City, May 10, 1938*

ies of mental performance were first reported by Sargent and Blackburn<sup>25</sup> who found an average increase of approximately eight per cent in intelligence test ratings following benzedrine sulfate. These findings have been confirmed by Molitch and associates<sup>27,28</sup> and Bradley.<sup>18</sup> The improved responses were thought to be due to relief from unpleasant somatic sensations, increased mental activity, and increased decisiveness, although headache or indifference unfavorably influenced some of the scores. The studies of Barmack<sup>29</sup> seem to indicate that benzedrine sulfate increases the inclination rather than the ability to do work. In our experience, persons with inherently low mental levels showed little alteration in intelligence scores after the drug, although patients with early toxic or infectious psychoses were apt to increase their rating as the abnormal mental state cleared.

## II Cardiovascular System

(a) *Blood Pressure* Most observers admit that benzedrine sulfate in sufficient dosage by mouth usually produces elevation of the systolic and the diastolic blood pressure. Along with Anderson and Scott<sup>30</sup> we have called attention<sup>31</sup> to the diastolic elevations or depressions. Some observers feel that little effect on the blood pressure is noted with doses of less than 20 mg. However, we have witnessed significant variations following doses of 10 mg. and less. In one patient the levels rose from 142/92 to 210/120 one hour after 10 mg. In addition, we have frequently noted paradoxical falls in blood pressure for example, from 125/88 to 98/60. We have found unpredictable increase or decrease in both the systolic and diastolic levels occurring singly or in combination. As we have previously pointed out,<sup>1</sup> the blood pressure effect is independent of the mental stimulation, and therefore blood pressure change is not a criterion for estimating the psychologic response. Within limits, increasing doses produce greater variations in blood pressure. The pressor effect appears not infrequently to be

diminished following several days of repeated doses. Storz and Kirk<sup>18</sup> found a fall in blood pressure with 10 mg. and a rise with 20 mg. After continuous inhalation of benzedrine for four to six hours, Waud<sup>24</sup> noted orthostatic hypotension on several occasions. The influence of posture and exercise on the variations in blood pressure following benzedrine sulfate has not been thoroughly investigated.

With subcutaneous administration, Myerson, Loman, and Dameshek<sup>32</sup> found a rise in the systolic pressure in all but one of eighteen patients. There was a noncommensurate increase in the diastolic level of the blood pressure.

We have given benzedrine sulfate intravenously<sup>22-27</sup> to a number of patients. Immediately following 10 mg. doses we frequently observe a fluctuation of 10 to 30 mm. of mercury in the systolic pressure which makes accurate determination of the level difficult. In general, 20 to 30 mg. of benzedrine sulfate raised the systolic level 30 to 50 mm. with a 20 to 30 mm. increase in the diastolic level. The maximum elevation was usually obtained within thirty to sixty minutes. In one case, 10 mg. of the drug elevated the blood pressure from 110/60 to 200/100 in five minutes. In two patients who had received 1 Gm. of sodium amytal intravenously, 105 and 130 mg. of benzedrine sulfate intravenously caused the following variations 90/64 to 220/114 and 70/50 to 188/102. In some cases there was a fall after the intravenous administration. We have previously reported<sup>33</sup> that benzedrine sulfate intravenously in 10 mg. doses restores to prenarcois levels, blood pressures which have been depressed by 0.5 Gm. of sodium amytal intravenously. One patient in collapse from sodium amytal with a blood pressure of 50/0 experienced an immediate rise to 140/90 following 10 mg. of benzedrine sulfate intravenously.

(b) *Pulse*—Several observers have noted that benzedrine sulfate makes the pulse labile and easily influenced by exertion. This may account for many of the increased pulse rates reported fol-

lowing oral administration of the drug, where presumably the patients were up and about. However, inconsistently, even in patients at rest we have witnessed increases in pulse rate as well as slow rates in patients who were active. Following subcutaneous<sup>32</sup> and intravenous administration<sup>33-37</sup> of the drug in patients who are kept quiet in bed, the pulse rate frequently falls. Elevation of the pulse rate is prone to occur in patients who exhibit little alteration of the blood pressure. Following the inhalation of toxic doses of the drug Waud<sup>25</sup> found a bounding pulse at rest and a weak, thready pulse on exertion, while slight exercise produced marked tachycardia. Bradycardia was observed once. The influence of posture and exercise on the variations in pulse rate has not been thoroughly investigated.

(c) *Heart*—Following oral administration of benzedrine sulfate, observers have occasionally noted sinus arrhythmia, extrasystoles, paroxysmal tachycardia, palpation, and bradycardia. Anderson and Scott<sup>30</sup> mentioned six cases with cardiovascular reaction—four had precordial pain, one had extrasystoles, and one had collapse with precordial pain, a drop of thirty beats in pulse rate, and a one to four heart block. Following subcutaneous administration of the drug, Dameshek, Loman, and Myerson<sup>38</sup> noted very little effect on the electrocardiogram in eight patients except for slight increase or decrease in the size of the T wave.

### III Gastrointestinal System

The controversial nature of the reports on the action of benzedrine sulfate is nowhere more evident than in those relating to the gastrointestinal system.

(a) *Stomach*—Reports on the effect of benzedrine sulfate on the human stomach as observed by roentgenographic study have been published by Myerson and Ritvo,<sup>39</sup> Smith and Chamberlin,<sup>40</sup> and Van Liere and Sleeth.<sup>41</sup> There is general agreement that benzedrine sulfate decreases peristaltic activity of the stomach in hypertonic states, has little

effect on it in normal tonic states, and increases it in hypotonic states. Myerson and Ritvo<sup>39</sup> claim that "the stomach actually empties more rapidly than normally under the influence of the drug." Smith and Chamberlin<sup>40</sup> and Van Liere and Sleeth,<sup>41</sup> however, report that the stomach empties less rapidly than normally. Beyer and Meek<sup>42</sup> correlate these opposing statements by animal fluoroscopic studies which revealed a more rapid initial emptying with a delayed final emptying of the stomach. Myerson and Ritvo state that the drug decreases the tonus in a hypertonic stomach, but has little if any effect on a stomach with normal tone or hypotonicity. Van Liere and Sleeth agree that benzedrine sulfate is capable of relaxing gastric musculature. Beyer and Meek in animals found that increased tonus and rate of activity appeared in about eight minutes, but that inhibition of activity even to cessation with or without slight loss of tonus took place within forty minutes. Myerson and Ritvo claim that the drug produces relaxation of the pyloric sphincter, but Van Liere and Sleeth do not believe that this has been demonstrated to date, pointing out in passing the uncertainty of the action of epinephrine on the pylorus. Ritvo<sup>43</sup> states that the use of atropine and benzedrine together in the gastrointestinal tract was distinctly less effective than benzedrine alone.

Myerson, Rinkel, and Dameshek<sup>44</sup> found that benzedrine sulfate either slightly diminished or did not affect the amount of gastric juice, but definitely and regularly increased the free hydrochloric acid and the pepsinogenic activity of the gastric secretion. Smith and Chamberlin<sup>40</sup> reported that the drug increased gastric acidity to a slight extent in normal persons but to an insignificant degree in patients with spastic conditions of the stomach and the duodenum.

(b) *Duodenum, Small Intestine, and Colon*—Myerson and Ritvo<sup>39</sup> and Smith and Chamberlin<sup>40</sup> agree that benzedrine sulfate relaxes the smooth muscle of the duodenum, the small intestine, and the colon. However, the latter observers

noted a moderate amount of to-and fro churning and an occasional peristaltic rush in the proximal small intestine. Van Liere and Sleeth<sup>41</sup> postulate that the peristaltic activity of the small intestine might be lessened, at times sufficiently to produce intestinal stasis. Starr<sup>42</sup> reported that increased peristaltic activity in the terminal small intestine produced by barium ceased after the injection of benzedrine sulfate subcutaneously. In contrast to these findings, Beyer and Meek,<sup>43</sup> in animals, were unable to demonstrate any constant effect on the intestinal tract of benzedrine orally, subcutaneously, intravenously, or by direct infusion into intestinal fistulae.

(c) *Gallbladder*—Schube, Ritvo, Myerson, and Lambert,<sup>44</sup> as a result of fluoroscopic studies, reported that benzedrine sulfate did not cause the gallbladder to contract. The organ emptied normally in response to a fat meal given thirty minutes after the administration of the drug, but failed to evacuate when the fat meal was given two hours after the benzedrine sulfate. They implied a delayed effect on the gallbladder. Smith and Chamberlin<sup>45</sup> employing biliary drainage confirmed these observations except that they did not study the effect of a fat meal two hours after the drug had been administered. In cats, Flexnor, Bruger, and Wright<sup>47</sup> reported that benzedrine sulfate produced immediate relaxation in gall bladders that previously had been contracted by acetyl beta methyl-choline chloride.

(d) *Clinical Observations*—Along with other observers, we have noted the following clinical effects of benzedrine sulfate on the gastrointestinal tract: anorexia, nausea, belching, abdominal cramps, flatulence, increase or decrease in frequency of bowel action, and increase or decrease in amount of stool. We have been particularly impressed by the unpredictable appearance of diarrhea or constipation in our patients. Vomiting<sup>16</sup> and spasm of the rectal sphincter<sup>48</sup> have been reported by others. Jaundice appearing during the administration of benzedrine sulfate was recorded by Donley.<sup>18</sup>

#### IV Genitourinary System

(a) *Urinary Tract*—We have noted an increase or a decrease in the frequency of urination with either an increase or a decrease in the total daily urinary output after benzedrine sulfate administration. Other observers have reported dysuria,<sup>9</sup> difficulty in initiating micturition,<sup>49</sup> and aggravation of pre-existing frequency and urgency.<sup>49</sup> Myerson<sup>40</sup> has stated that benzedrine sulfate relaxes the urinary bladder. Waud<sup>25</sup> reported that toxic doses of the drug by inhalation produced marked shrinkage of the external urethra, immediate diuresis of 500 to 2,000 cc. in 4 to 6 hours, and moderate suppression of urine after 8 hours for one day.

(b) *Genital Tract*—Ulrich et al.<sup>6</sup> observed an additional menstrual period in an adolescent girl following the daily administration of 50 mg of the drug. Solomon et al.<sup>18</sup> reported an increase in sexual potency in two male patients. After toxic doses by inhalation, Waud<sup>25</sup> found increased libido for a short period followed by decreased libido for two hours to four days.

#### V Upper Respiratory Tract

Inhalation of the vapor of benzedrine has been reported to produce shrinkage of the mucous membranes and diminution of nasal secretion.<sup>51-54</sup> Toxic doses have produced paradoxical effects.<sup>25</sup>

Along with other investigators we have observed that internal administration of benzedrine sulfate may cause increase or decrease of nasal secretion, parching of the mouth and throat or increased salivation, and a peculiar "metallic" taste.

#### VI. Respiration

All investigators are agreed that benzedrine sulfate in the usual therapeutic doses has little effect on respiration. Following toxic doses by inhalation, Waud<sup>25</sup> observed dyspnea, foamy sputum, emphysema, and moist râles in the lungs for one to three days. In animals some investigators<sup>3,48</sup> have found stimulation of respiration by the drug while others have observed no effect.<sup>6</sup> We have

found that the depression of respiration produced by large doses of sodium amytal is little if at all influenced by benzedrine sulfate

## VII. Bronchi

Although a definite but poor bronchodilator effect from benzedrine sulfate has been observed in animals,<sup>67-70</sup> no studies have been reported on this action in the human subject

## VIII. Eye

Myerson and Thau<sup>71</sup> have reported that solutions of benzedrine sulfate of  $\frac{1}{8}$  to one per cent instilled in the eye produced a dilation to complete mydriasis in from fifteen to thirty minutes, and an increase of 2 to 4 mm in intra-ocular tension. Atropine and its derivatives appear synergistic to benzedrine sulfate when instilled in the eye,<sup>72-75</sup> producing cycloplegia with reduced doses which is rapidly induced in one-half to one hour and quickly dissipated in five to seven hours. Myerson and Thau<sup>71,76</sup> also reported that benzedrine solution caused the reappearance of the reaction to light in Argyll-Robertson pupils.

Internal administration of benzedrine sulfate has been found by us to produce injection of the conjunctivae and dilation of the pupils. Blurred vision has been mentioned by others.<sup>23</sup> In postencephalitic Parkinsonism, oculogyric crises have been reported to disappear, or to be reduced in severity and number.<sup>15,77-79</sup>

## IX. Weight

During the administration of benzedrine sulfate we have frequently noted an initial moderate loss of weight in some subjects, and after the drug was discontinued, a marked gain in weight in others. Loss of weight has been observed by Shapiro,<sup>10</sup> Nathanson,<sup>9</sup> Schube et al.<sup>80</sup> and Ulrich.<sup>49</sup> The loss has variously been explained as due to anorexia and lessened appetite, increase in physical activity, moderate increase in basal metabolic rate and loss of fluid through increased sweating, urination, and defecation. Ehrlich and Krumbhaar<sup>81</sup> found

that rats receiving 20 mg or less of the drug daily stopped growing for three weeks and then began to grow again, while those receiving larger doses continued to lose weight. They demonstrated a marked diminution in food intake in these animals. Wilbur et al.<sup>11,12</sup> however, observed loss of weight in only two of twenty-three patients with "chronic exhaustion." Lesses and Myerson<sup>82</sup> reported considerable decrease of weight in sixteen of seventeen patients treated over periods of six to twenty-five weeks with a diet of 1,400 calories and benzedrine sulfate. Two patients lost forty-eight and fifty-four pounds, respectively, and five others more than twenty pounds. However, most of the patients were obese psychoneurotic individuals. The loss was attributed to the reduced food intake and the amelioration by benzedrine of the desire to overeat. Waud<sup>25</sup> reported that toxic doses by inhalation produced an average loss of ten to fourteen pounds in three to four days, after which the weight was quickly restored to normal.

## X. Cellular Elements of the Blood

In eleven of fifteen patients, Myerson et al.<sup>32</sup> found an increase of at least one million in the total number of erythrocytes per cubic mm within two hours after a subcutaneous injection of 40 mg of benzedrine sulfate. In one patient the count reached nearly eleven million. They also observed an increase to as much as four times the original level in the leukocyte count, particularly in the polymorphonuclear cells. No immature cells were found. They assumed these alterations to be due to an effect on the hematopoietic reservoirs, such as the spleen, rather than to stimulation of the bone-marrow. We have been unable to produce such striking alterations in the blood picture with doses as high as 30 mg daily, orally or intravenously. Donley<sup>18</sup> and Bradley<sup>16</sup> also observed no significant changes in the blood. Davies<sup>33</sup> reported the occurrence of acute aplastic anemia following 190 mg of the drug by mouth taken in a period of nineteen days.

Schube, Raskin, and Campbell<sup>14</sup> made studies of the blood in a series of patients who six months previously had been given the drug orally or subcutaneously for a considerable period, and they concluded that in these cases benzedrine sulfate produced no permanent alterations in the hematopoietic system

## XI Chemical Elements of the Blood

Along with Peoples and Guttman,<sup>5</sup> Myerson et al.,<sup>22</sup> and Donley,<sup>18</sup> we have observed no alterations in the blood sugar level following benzedrine sulfate. However, Storz and Kirk,<sup>12</sup> using the German benzedrine compound, found a fifteen to twenty per cent increase in the sugar level two to four hours after administration. We noted no change in the nonprotein nitrogen level of the blood in ten cases.

## XII Basal Metabolic Rate

We have observed a transitory increase in the basal metabolic rate in some cases following benzedrine sulfate, but have noted frequently a decrease in the rate, and have not been convinced that there is a consistent variation. In our experience an elevated rate was more apt to obtain in patients with originally low levels. Similar observations on three cases have been reported by Lagen, Soley, and Leake.<sup>25</sup> Ulrich<sup>26</sup> has found a temporary moderate increase in rate but no permanent alteration even after prolonged use. A moderate elevation of rate which was progressively increased by fractional oral doses up to 40 mg and which reached maximum about two hours after administration was reported by Molitch and Poliakoff.<sup>24</sup> The alteration varied between three and fourteen per cent. Myerson et al.,<sup>22</sup> Nathanson,<sup>9</sup> and Donley<sup>18</sup> observed no change in the basal level following the drug.

## XIII. Miscellaneous

(a) *Spinal Fluid*—Myerson et al.<sup>22</sup> recorded a moderate rise in the spinal fluid pressure coincident with the rise in blood pressure in fourteen cases.

(b) *Skin*—We have observed that

benzedrine sulfate may produce the following effects on the skin: flushing of the face, urticaria, pustular eruption, cutis anserina, sensations of warmth, excessive sweating with a peculiar odor to perspiration, greasiness, dermatographia, circumoral pallor, cyanosis, dryness, coldness and clamminess of the hands, and occasional paresthesias. Similar effects have been reported by others.

(c) *Reflexes*—We have noted that the deep reflexes are occasionally increased following benzedrine sulfate particularly in patients who exhibit tremulousness.

(d) *Urine and Stool*—Except for increases or decreases in amount of urine or of stool we have found no pathological variations in the excreta. Similar observations have been reported by others. Following toxic doses by inhalation Waud<sup>23</sup> observed no abnormal findings in the urine.

(e) *Temperature*—We have noticed a variation of approximately one degree in the temperature of most patients receiving benzedrine sulfate and have observed that patients with initial subnormal levels tend to have an increase. Storz and Kirk<sup>12</sup> recorded a rise in temperature of one degree in three of fourteen cases.

(f) *Carotid Sinus*—Robinson<sup>27,28</sup> has reported that benzedrine sulfate will diminish or eliminate induced and spontaneous syncope due to a hyperactive carotid sinus reflex.

(g) *Constitution and Habitus*—Asthenic individuals appeared to us to be more sensitive to benzedrine sulfate than pyknic types. We have made no effort to correlate the asthenic habitus with the so-called vagotonic states because we are impressed by the amphotonic nature of the reactions of most individuals. We have noted that persons with vasomotor instability are more sensitive to the drug, particularly those with low and labile blood pressure. Peoples and Guttman<sup>5</sup> and Shapiro<sup>19</sup> have reported similar observations. We are not able to agree with Guttman and Sargent<sup>14</sup> that persons with cyclothymic tendencies have the most constant favorable reaction to the drug. Hill<sup>21</sup> stated that benzedrine sulfate had a

greater beneficial effect in those cases of seasickness in which there were signs of excessive vagus activity Woolley<sup>32</sup> reported no difference in the response of vagotonic and sympathetictonic patients

(h) *Enuresis*—In boys who had nocturnal enuresis, Molitch and Poliakoff<sup>30</sup> found benzedrine sulfate of value in decreasing the depth of the slumber, thus increasing the response to the call to urination

#### XIV Posology

(a) *Onset and Duration of Effect, and Dosage*—In general, following oral administration of benzedrine sulfate in doses of 10 to 30 mg effects of the drug begin to appear in from forty-five minutes to two hours When the drug is injected subcutaneously, the pressor response is usually apparent in five minutes With intravenous administration, responses appear at times immediately or within five minutes

The maximum response of a given individual dose depends to some extent upon the particular pharmacologic reaction evaluated, but, in general, the maximum blood pressure response from oral administration appears in two to four hours Following subcutaneous injection, Myerson<sup>32</sup> reported that the blood pressure reached the highest level in eleven to eighty-five minutes We have observed maximal alterations in blood pressure within thirty to sixty minutes following intravenous administration

Following oral administration of a single dose, blood pressure variations were usually found to disappear in four to eight hours Subjective reactions such as insomnia may persist for seven to sixteen hours after administration Blood pressure elevations produced by subcutaneous injection were found to disappear in one and one-half to eight hours We have found that blood pressure elevations produced by intravenous administration of the drug have returned to normal in eighty-five minutes to seven hours

A number of patients have tolerated large doses of the drug We have given a patient 200 mg orally in one day without untoward effects Carlisle and Hecker<sup>30</sup> gave four patients 60 mg of the drug by mouth daily for sixty-five days (3,900 mg) without untoward effects Patients with orthostatic hypotension have received 150 mg of the drug daily for six months<sup>31</sup> Subcutaneously Piness, Miller, and Alles<sup>32</sup> and Myerson<sup>32</sup> injected 50 mg without harm We have injected intravenously 40 mg as a single dose and a total of 105 and 130 mg over a period of an hour in two patients without alarming reaction

In certain types of illness, benzedrine sulfate has continued to prove effective over long periods of time Narcoleptics are continuing to receive benefit after a period of more than three years of daily administration In orthostatic hypotension the drug has remained effective for over six months<sup>31</sup> The unpleasant effects disappeared after a few days in some cases, but appeared to accumulate in others Wilbur et al.<sup>11,12</sup> have observed that certain patients develop tolerance to the drug and therefore suggested intermittent administration to prevent this Some observers<sup>11,12,22</sup> feel that the response of the patient on the initial day of treatment is an index of the effect that can be expected from the drug However, we have observed cases of mental illness in which the response to prolonged administration could not have been predicted on the first days of medication This has made us feel that a delayed response to the drug occurs Donley<sup>18</sup> noted the sudden development of marked hypertension and jaundice after two weeks of uneventful administration

The determination of the minimal effective dose of benzedrine sulfate depends upon what criterion is used for estimating the response to the drug We have found that definite blood pressure variations can be produced by doses of 5 mg and in some cases by doses of 2 mg However, many observers feel that doses of 10 to 20 mg are necessary

to produce blood pressure alterations. We are convinced that doses which appear to produce no effect on the blood pressure may cause definite effects in the mental status. In this respect in certain sensitive persons doses as low as 1 mg have produced such a response. Psychological stimulation from doses of  $2\frac{1}{2}$  mg has been reported by others<sup>10-12, 24</sup>. However, we have found a few patients unresponsive to doses as high as 70 mg. Subcutaneously 9 mg and intravenously 5 mg are effective in elevating the blood pressure. No smaller doses have been reported to date.

(b) *Toxic Effects*—It is difficult to draw the line between beneficial and harmful effects of the drug because a reaction such as disturbance of the sleep mechanism might be favorable at one time (as in narcolepsy) and unfavorable at another (as in insomnia occurring in orthostatic hypotension). Many authors have mentioned such situations in which excessive psychic stimulation was corrected by reduction in dosage. We have summarized the untoward effects in a previous publication.<sup>1</sup> Toxic effects may be considered to be an aggravation of the usual reaction to the drug from excessive dosage, the occurrence of alarming and harmful reactions from small dosage (idiosyncrasy), and the occurrence of unpredictable or paradoxical responses which, because of their severity, are dangerous to the patient. We have observed at times that overdosage has produced assaultiveness, confusion, hallucinations, and delirium, that dementia praecox patients have been precipitated into panic, that mentally ill persons have made suicidal or homicidal attempts, that a few patients have shown cardiac and vasomotor collapse associated with paradoxical falls in blood pressure and pulse. Similar observation has been reported by Anderson and Scott.<sup>20</sup> Pre-cordial pain and disturbances of rhythm and conduction were recorded by them. Aggravation of psychoses was also noted by other observers.<sup>22, 26</sup>

The toxic effects of continuous inhalation of benzedrine were reported by

Waud<sup>25</sup> to include sympathomimetic excitation, stimulation of the central nervous system which is marked but relatively temporary and always followed by fatigue and mental depression, marked but temporary pressor effect, diuresis, and depression of the cardiac muscle. He concluded that permanent organic changes are probably negligible with normal doses of benzedrine over long periods of time, and that the margin of safety is great in normal persons.

Eight cases of severe reactions have been reported.

1. Davies patient<sup>22</sup> developed aplastic anemia with cardiovascular collapse from 100 mg during nineteen days.

2. Extreme panic in a student three hours after 30 mg was reported by Ulrich.<sup>49</sup>

3. Meerloo's student<sup>19</sup> became violent after taking 90 mg daily for three weeks.

4. Donley's patient<sup>18</sup> developed hypertension and jaundice after receiving 20 mg daily for two weeks and expired one week later from pneumonia.

5, 6. Two of Finkelman and Shapiro's patients<sup>7</sup> died from pneumonia during an influenza epidemic while receiving 10 to 20 mg of the drug for postencephalitic Parkinson's syndrome.

7. Unconsciousness and clonic convulsions nine hours after 30 mg were reported by Smith and Chamberlin.<sup>40</sup>

8. The ingestion of a single dose of 140 mg with suicidal intent by Appelberg's patient<sup>27</sup> resulted in coma of thirty six hours duration, convulsions, circulatory collapse, signs of cerebral irritation and depression, and eventual recovery. This person also developed pneumonia and four subcutaneous abscesses. The occurrence of infection of the upper respiratory tract and the skin is worthy of comment.

Although many untoward, paradoxical, and unpredictable effects of benzedrine sulfate occur, the exceedingly alarming reactions just mentioned must be considered to represent idiosyncrasy to the drug or the result of gross overdosage because of the large number of patients in whom no such serious effects have appeared.



(c) *Habituation*—A number of our patients have enjoyed the sensations produced by benzedrine sulfate, and have requested further doses of the drug. This was particularly true of those who had a liking for spirituous liquors. Some individuals compared their sensations with those of a mild state of alcoholic intoxication. We are convinced that in certain persons at least, benzedrine sulfate is habit-forming. We have noticed this tendency in individuals addicted to alcohol, morphine and other drugs, in neurotic persons who crave medication, and in people who work under excessive strain such as actors, students, nurses, and physicians. The benzedrine habit appears to be similar to the daily use of moderate amounts of caffeine, nicotine, and alcohol. At present there is insufficient evidence to definitely establish whether the patient is worse after benzedrine has been discontinued than he was prior to its administration. The development of tolerance, which has been mentioned,<sup>11, 12</sup> is consistent with habit formation.

Byrne<sup>63</sup> in 1933 commented on the similarity to cocaineism of the effects produced by excessive benzedrine inhalation. Peoples and Guttman<sup>5</sup> early called attention to the danger of addiction, and Guttman and Sargent<sup>14</sup> later mentioned individuals who were buying the drug at pharmacies without medical supervision. They felt that the preponderance of disquieting somatic symptoms and the insomnia would tend to make addiction rare. Hill<sup>21</sup> made similar comments. Ulrich,<sup>49</sup> Meerloo,<sup>19</sup> and Davies<sup>83</sup> have reported cases of students who have taken the drug for aid during examinations. In a series of 147 students, Gwynn and Yater<sup>23</sup> found that thirty-eight had a definite desire to continue taking the drug. Reports of promiscuous use of the drug by students in at least two of our large universities have appeared in the lay press<sup>94-96</sup>. Numerous editorials<sup>97-104</sup> in the American and British medical journals have warned against such practices. Reiter<sup>20</sup> has pointed out that in Germany the drug has been widely

advertised in newspapers as producing "the same effect as a two month vacation." Waud<sup>25</sup> has informed us<sup>105</sup> that the person in whom he studied the effect of continuous inhalation was very reluctant to give up taking the drug, in spite of the marked toxic manifestations that had been produced. This person developed a definite tolerance to the drug. Myerson, however, has stated<sup>106</sup> that the drug does not cause addiction, because "it does not leave the patient at a lower level when the effects wear off."

## XV. Summary of Pharmacologic Physiology of Benzedrine Sulfate

An analysis of the foregoing review of the pharmacologic physiology of benzedrine sulfate reveals considerable controversial and unconfirmed data. The pattern of reaction is variable, uncertain, unpredictable, and, at times, paradoxical depending upon the individual medicated and the opinion of the investigator.

The need for further investigation is apparent. The effect of the drug on the genitourinary tract and the renal function, the mode of excretion of the drug, and the concentration of the drug in various body fluids are among the many problems that suggest themselves.

## THERAPEUTIC APPLICATION

A review of clinical experiences with the drug in the treatment of various diseases and conditions will now be presented.

### I Nervous and Mental Disease

(a) *Narcolepsy*—In 1935 Prinzmetal and Bloomberg<sup>4</sup> reported the first use of benzedrine sulfate in narcolepsy. They found oral doses of 10 to 90 mg daily satisfactory in nine patients and concluded that benzedrine was three times as effective as ephedrine. Bloomberg<sup>107</sup> in a later report states that thirty-five cases of narcolepsy treated by him have received complete relief from attacks of sleep and cataplexy. Since these reports numerous investigators<sup>6, 7, 9, 10, 14, 15, 17, 37, 49,</sup> have recorded a total of fifty-eight

patients with narcolepsy who have been treated with benzedrine sulfate. Of these ninety-eight per cent obtained relief from the attacks of narcolepsy. Davidoff<sup>7</sup> reported a narcoleptic patient with a psychotic state who showed improvement of the narcolepsy but an aggravation of the delusions and hallucinations. A similar experience was mentioned by Solomon, Mitchell, and Prinzmetal<sup>16</sup>. We observed that benzedrine sulfate had no effect on the narcoleptic attacks of a patient who subsequently was proved at postmortem to have Wilson's disease.

(b) *Postencephalitic Parkinsonism*—In March 1936, Solomon and Prinzmetal<sup>108</sup> reported a series of eighteen cases of postencephalitic Parkinsonism who showed beneficial responses to benzedrine sulfate. Bloomberg<sup>107</sup> and Davidoff<sup>7</sup> shortly after mentioned that such patients showed a favorable response to benzedrine sulfate and stramonium or scopolamine. Later Solomon, Mitchell, and Prinzmetal<sup>15</sup> presented a series of twenty-eight cases and reported that fifty-three per cent were benefited by benzedrine alone, while ninety-three per cent were improved on a combination of benzedrine sulfate and stramonium or scopolamine. The dosage required was 10 to 160 mg daily. The improvement was observed chiefly in the subjective symptoms and to a lesser extent in the tremor and rigidity. These authors found benzedrine sulfate of no value in cases of arteriosclerotic Parkinsonism. To date one hundred fifty-nine cases of postencephalitic Parkinsonism have been reported<sup>77-79, 109</sup> as treated with benzedrine sulfate combined with scopolamine, stramonium, or atropine. Of these, eighty-five per cent showed improvement. Beneficial response has been recorded in ninety-five per cent of twenty-one cases with oculogyric crises.

In our experience benzedrine sulfate has been a beneficial adjuvant to stramonium, scopolamine, or atropine in four of six patients with postencephalitic Parkinsonian syndrome when there were minimal organic defects and personality

changes. However, patients with demonstrable psychotic states were not as favorably influenced.

(c) *Myasthenia Gravis*—Fraser, McGeorge, and Murphy<sup>110</sup> briefly mentioned some beneficial effect from benzedrine given in combination with prostigmin in one case of myasthenia gravis. Thorner and Yaskin<sup>111</sup> treated five cases of this disease. Three patients showed a more satisfactory response to a combination of benzedrine sulfate and prostigmin than to either drug alone.

(d) *Alcoholism*—In states of alcoholic intoxication without psychosis we have found that benzedrine sulfate usually produced a very satisfactory response. The headache, fatigue, languor, and mental retardation characteristic of a "hangover" were rapidly dissipated by 10 mg. A similar response has been mentioned by Wilbur et al.<sup>11, 12</sup> We have been able to arouse within thirty minutes several patients with alcoholic stupor by injection of 10 to 30 mg of the drug intravenously.

(e) *Barbiturates and Morphine*—We have found<sup>22</sup> that benzedrine sulfate will quickly arouse patients intoxicated with mild doses of barbiturates. However, in poisoning from massive doses results have not been as favorable because of the physiologic depression by the barbiturate of the respiratory center which is unresponsive to benzedrine, and because of the extent of the toxic pathologic process. There is some evidence to indicate a synergy of harmful effect in combined massive doses of both drugs. In stupors due to morphine, benzedrine sulfate appears to be of value in shortening the comatose period when used in conjunction with the other recognized procedures. The drug appears to be of value in counteracting withdrawal symptoms.

(f) *Organic Psychoses*—In our experience,<sup>22</sup> in the organic psychoses characterized by depression the states of intoxication were more favorably influenced than those of infectious or traumatic origin. In alcoholic psychoses of

recent onset ninety-three per cent of twenty-eight cases were benefited.<sup>86</sup> Fifty per cent improvement was observed in psychoses of recent onset due to encephalitis. Sixty-seven per cent of the early traumatic cases showed improvement. In organic psychoses where defects of the sensorium, deterioration, or personality alteration had developed, the response was unsatisfactory. In psychoses resulting from intoxication with barbiturates and morphine we have noted results comparable to those of the alcoholic group.

(g) *Dementia Praecox*—For over two years we<sup>34</sup> have been using benzedrine sulfate orally in the treatment of self-absorbed dementia praecox patients. Thirty-three per cent of forty-five cases showed improvement as compared with twenty-four per cent in a control group of 300 cases. However, of nineteen recent cases forty-seven per cent improved in contrast to fifteen per cent of twenty-six cases ill longer than two years. Recently we have been employing in all types of dementia praecox a procedure which combines on alternate days narcosis with sodium amytal orally and stimulation with 30 mg of benzedrine sulfate intravenously. To date sixteen cases have been treated and of these eight have been discharged to their homes.

Myerson,<sup>24</sup> Carlisle and Hecker,<sup>90</sup> and Schube et al.<sup>80</sup> have reported no improvement in patients with dementia praecox, while Guttman and Sargent,<sup>14</sup> Donley,<sup>18</sup> and Bloomberg<sup>107</sup> have reported transitory improvement in a limited number of cases. Woolley<sup>22</sup> found improvement in eleven out of forty-four cases.

We have concluded that in those cases of schizophrenia which are inherently capable of being stimulated to some degree of improvement, benzedrine sulfate may initiate, accelerate, augment, and/or indicate such improvement. Long continued observations of a large series of patients correlated with adequate control studies will be necessary before we can determine the value of the benzedrine

sulfate procedures in the treatment of dementia praecox. Until recoveries from this mental illness are recorded as "five and ten year cures," as is done in estimating response in neoplastic disease, we will be unable to evaluate properly the worth of any of the pharmacotherapeutic procedures now in vogue.

(h) *Manic Depressive Psychosis, Depressed Type*—Guttman and Sargent<sup>14</sup> reported encouraging results in mild depression but noted little effect in severe depression or stupor. Myerson<sup>24</sup> stated that in mild psychoses associated with depression, fatigue, and anhedonia, benzedrine sulfate acted as an ameliorative influence. In a later communication Schube et al.<sup>80</sup> reported that the drug had no value in the alleviation of a series of thirty-two patients with depression of the manic-depressive type.

We have found the rate of improvement apparently accelerated in thirty per cent of twenty patients with this psychosis. In half of the cases a state of increased irritation was produced, while in only six was there an elevation of mood. Because of the inherent tendency of this group to improve, it was difficult to evaluate the effect of the drug. Wilbur et al.<sup>11, 12</sup> found that seventy per cent of patients with depression were benefited immediately by the drug, but over periods of one to eight months only twenty-five per cent continued to show improvement. Donley<sup>18</sup> reported transitory improvement in two cases, Reiter<sup>20</sup> found marked improvement in five of twenty-six cases, and Woolley<sup>22</sup> observed a favorable response in four of seventeen.

We do not consider that any of the investigators to date have sufficiently studied the possibilities of benzedrine sulfate in this psychosis. Adequate control data are also needed. We feel that theoretically the drug is not suitable for use in severe states of depression because of our previous observations that the drug has less effect in elevating mood than in producing acceleration of motor and speech activity.

(i) *Psychoneuroses*—Myerson<sup>24</sup> re-

ported that benzedrine sulfate has an ameliorative influence on the morning apathy occurring in certain cases of psychoneurosis associated with depression, fatigue, and anhedonia. Nathanson<sup>9</sup> found that the drug acted favorably in eighty per cent of states of "persistent exhaustion" and in individuals who became easily fatigued. Wilbur et al.<sup>11,12</sup> also stated that eighty per cent of patients with chronic nervous exhaustion received immediate benefit which was maintained over a period of one to eight months in only fifty per cent. These observations of Nathanson and Wilbur have been included by us under the heading of psychoneuroses because we believe that when underlying organic disease or excessive physical strain cannot be uncovered as the cause of the persistent fatiguability, a psychoneurosis exists. We have previously advised caution in administering the drug in states of asthenia associated with malnutrition, exhaustion, anemia, debility, and lowered bodily resistance. If these authors are including in this group of patients those exhibiting the ill-defined concept of vasomotor instability, we will agree that people with a labile vasomotor system are more sensitive to the drug as we have pointed out along with Peoples and Guttman,<sup>8</sup> Shapiro,<sup>10</sup> and Hill.<sup>21</sup>

We encountered the greatest difficulty in evaluating the effect of benzedrine sulfate in the psychoneurotic group. Most striking was the lack of consistent improvement in all phases of response in any given case. Amelioration of the predominant psychoneurotic complaint was found in only twenty seven per cent of fifteen cases. Elevation of mood occurred in the same percentage. Solomon et al.<sup>14</sup> found improvement in only two of twenty-two patients with psychoneurosis. Wilbur et al.<sup>11,12</sup> in a group of thirty five patients whom they diagnosed as psychoneurotics observed improvement in forty seven per cent. Reiter<sup>20</sup> reported improvement in ten of sixteen cases, with marked improvement in only three. Woolley<sup>22</sup> noted favorable response in one of five patients

We have observed, as have Guttman and Sargent<sup>14</sup> and Shapiro,<sup>10</sup> that anxiety states are usually aggravated by the drug. For this reason we hesitate to administer the drug to persons with anxiety neuroses, involution melancholia, and mixed manic psychoses.

## II Cardiovascular Disease

In one case of orthostatic hypotension Kornis and Randall<sup>21</sup> found that divided doses of benzedrine sulfate totaling 100 to 150 mg daily were adequate to give relief of symptoms over a period of six months. Davis and Shumway Davis<sup>11a</sup> noted similar results in two cases with divided doses totaling 55 to 75 mg daily. Wilbur et al.<sup>11</sup> reported a satisfactory response in one case, and we have seen one mild case that was favorably influenced.

Tovell<sup>12</sup> found the drug of some value in combating shock and hypotension during operations under spinal anesthesia. In a series of patients<sup>22</sup> in whom sodium amytal narcosis was experimentally induced, we found that benzedrine sulfate intravenously consistently elevated the blood pressure. One patient in collapse with a blood pressure of 50/0 experienced an immediate rise to 140/90.

Benzedrine sulfate therefore appears to be of some value and worthy of further clinical trial in orthostatic hypotension and in hypotension due to shock. In other syndromes associated with hypotension, the underlying causative pathology must be carefully determined before it can be decided whether the drug should be tried for its pressor effect. It must be remembered that paradoxical depressor responses have frequently occurred, even though the drug usually produces elevation, particularly when the initial blood pressure is low.

## III Gastrointestinal Disease

Although considerable controversy exists over the action of benzedrine sulfate on the gastrointestinal tract, as has been mentioned, most investigators agree that the drug is of value in selected cases in relaxing the spasm of hypertonic states of the stomach, the duodenum, the small

intestine, and the colon to aid in roentgenographic study of these organs. To date there is insufficient data to warrant the use of the drug in the treatment of pylorus spasm and spastic colitis. It must be pointed out that as yet the drug cannot be advocated for routine use in roentgenographic study of the gastrointestinal tract because of the occurrence at times of increased peristalsis, peristaltic rushes, to-and-fro churning, and occasionally sufficient relaxation to produce stasis with flatulence and uncomfortable distension. The increase in gastric acidity reported by one observer would make the use of the drug undesirable in patients who are already afflicted with hyperacidity, as in gastric ulcer.

#### IV Upper Respiratory Tract Diseases

The value of benzedrine vapor by inhalation from the "Benzedrine Inhaler" in diseases of the upper respiratory tract is too well known to need comment here. Internally the effect of benzedrine sulfate on this system is too uncertain to merit therapeutic application.

#### V Ophthalmological Applications

The beneficial effects of benzedrine sulfate internally on the oculo-gyric crises of postencephalitic Parkinsonism have been previously mentioned. The instillation of benzedrine solution in the eye in combination with homatropine or atropine to produce a rapid cycloplegia of short duration is a procedure which appears to have considerable merit.

#### VI. Weight Reduction

The use of benzedrine sulfate for the reduction of weight has been advocated by Myerson and his associates<sup>82</sup>. However, in their study the drug was used in combination with a marked restriction of diet in obese psychoneurotic patients. On the basis of the existing data of other observers, we feel that there is doubtful value in the use of benzedrine sulfate as a routine medication to induce weight reduction in office or clinic practice, particularly in view of the rela-

tively mild initial loss of weight which occurs and which is frequently not maintained, and further that there is possible harm in view of the untoward effects which may ensue. In institutions where a definite routine and proper precautions can be employed, the drug may be used during a short period of administration to initiate a loss of weight maintained by the establishment in the mind of the patient of a psychologic state which enables him to adhere to the regime.

#### VII Miscellaneous Therapeutic Applications

Hill<sup>21</sup> used benzedrine sulfate in treating one hundred cases of seasickness with satisfactory results in thirty-nine, and doubtful improvement in an additional forty. He stated that the drug has great possibilities of usefulness in certain cases of seasickness in which there are signs of excessive vagus activity. Robinson<sup>87,88</sup> in four cases found that doses of 20 to 30 mg of benzedrine sulfate at four hour intervals were usually effective in preventing induced and spontaneous syncope resulting from a hyperactive carotid sinus reflex (Stokes-Adams attacks). Poole and Wilkinson<sup>114</sup> reported the disappearance of heart block in one case following small doses of the drug. On the basis of the report of Molitch and Poliakoff<sup>89</sup> there may be a restricted use for the drug in overcoming nocturnal enuresis when associated with deep slumber. Heisch<sup>118</sup> suggested that benzedrine sulfate internally in combination with belladonna may have a beneficial effect in hay fever. Nathanson<sup>9</sup> reported a favorable response from the drug in four cases of migraine.

We are at present studying the effect of benzedrine sulfate in asthma and in the vomiting of pregnancy. Theoretically the drug may have usefulness in all cases where ephedrine has previously appeared to be of value.

#### Contraindications

The following are definite contraindications to the administration of benzedrine sulfate.

- 1 Hypertension
- 2 Coronary artery disease.
- 3 A state of excitement.

In addition, there are a number of circumstances in which benzedrine sulfate should be administered with considerable caution, because of possible harmful effects. We include among these the following

- 1 Indiscriminate use of the drug for symptomatic relief without adequate supervision or thorough investigation
- 2 Outpatient practice
- 3 Idiosyncrasy to small doses of the drug, or the early appearance of alarming untoward effects
- 4 More severe forms of vasomotor instability
- 5 Wide daily fluctuations in the blood pressure or pulse rate
- 6 Generalized arteriosclerosis
- 7 Senility
8. Atonic states of the gastrointestinal system
- 9 Hepatic insufficiency and thyroid hyperfunction
- 10 Tendency to physical overactivity
- 11 Agitated depression
- 12 History of previous excitement, as in mental deficiency and epilepsy
- 13 History of homicidal or suicidal tendencies
14. History of convulsive seizures
- 15 Anorexia
- 16 Insomnia.
- 17 States of asthenia associated with exhaustion, debility, anemia, and lowered bodily resistance.
- 18 Psychopathic personalities and other individuals where habituation is apt to occur
- 19 Persons who request the drug

The increased sensitivity of individuals with asthenic habitus should be considered, particularly in unsupervised regimens. It has been our opinion that this drug should not be used in cardiac and vascular disease until more is known of its action. For reasons now apparent, we must condemn the use of benzedrine sulfate in preparing individuals for periods

of excessive physical or mental exertion. In severe depressions the possibility of suicide must always be borne in mind. Habituation, which definitely occurs in some individuals, demands constant vigilance.

### Indications

Benzedrine sulfate as an internal medication is best established in the treatment of narcolepsy. On the basis of the insufficiently confirmed reports in the literature to date, the drug also appears to have some therapeutic usefulness, subject to the limitations previously pointed out, in the following conditions: (1) postencephalitic Parkinsonism, but only as an adjuvant to stramonium, scopolamine, or atropine and (2) states of hypotension, as orthostatic hypotension, and hypotension due to shock.

Additional therapeutic suggestions in need of much confirmatory data include

- 1 Spasm of the gastro-intestinal tract, but only as an aid to roentgenographic visualization
- 2 States of depression of recent onset due to drugs, particularly alcohol and moderate doses of barbiturates
- 3 States of depression of recent onset due to infection or trauma
- 4 Self absorbed states of dementia praecox of recent onset where it may, initiate, accelerate, augment, and/or indicate improvement which is inherently present, and where it may act as an adjuvant to other psychotherapeutic procedures
- 5 Manic-depressive psychoses of the depressive type.
- 6 Psychoneuroses
- 7 States of vagus overactivity, as seasickness or hyperactive carotid sinus reflex (Stokes-Adams syndrome)
- 8 Weight reduction, but only as an initial procedure in an institutional regime.
- 9 Myasthenia gravis

Benzedrine sulfate can be more safely prescribed when the patient is under observation in a hospital, but may be satisfactorily administered in outpatient prac-

tice when given with great caution under the most favorable circumstances and careful supervision

Benzedrine by inhalation or local application is well-established as an astringent of the upper respiratory tract. Its use as a solution to produce cycloplegia seems to have considerable merit

Summary

- 1 The present status of benzedrine sulfate therapy based on a review of the literature and on the experience of the authors is herein presented
  - 2 The pharmacologic physiology of the drug is discussed
  - 3 The various therapeutic applications that have been made of the drug are described
  - 4 Emphasis is placed on the unconfirmed and controversial nature of much of the reported data, on the occurrence of untoward effects and habituation, on the danger of indiscriminate use, and on the necessity of administering the drug with caution
  - 5 The present indications and contraindications of benzedrine sulfate are outlined
- 708 Irving Ave

References

1 Davidoff, E and Reifenstein, E C, Jr J A.M.A., 108 1770, 1937  
2 Alles G A J Pharmacol and Exper Therap, 47 339 1933  
3 Alles, G A and Prinzmetal, M Quoted by Prinzmetal and Bloomberg (See reference No 4)  
4 Prinzmetal, M and Bloomberg, W J A M A , 105 2051, 1935  
5 Peoples, S A. and Guttman, E Lancet, 1 1107, 1936  
6 Ulrich, H, Trapp, C E, and Vidgoff, B Ann Int. Med, 9 1213, 1936  
7 Davidoff, E Psychiat. Quart., 10 652, 1936  
8 Fisher, J H Lancet, 1 52, 1937  
9 Nathanson, M H J A M A., 108 528, 1937  
10 Shapiro M J Minn Med., 20 28, 1937  
11 Wilbur, D L, MacLean, A R, and Allen, E V Proc Staff Meetings Mayo Clinic, 12 97, 1937  
12 Idem J.A.M.A., 109 549, 1937  
13 Storz, H, and Kirk, R. Deutsche Med Wochnschr., 63 393, 1937  
14 Guttman, E, and Sargent, W Brit Med J, 1 1013, 1937  
15 Solomon, P Mitchell, R S, and Prinzmetal, M J A.M.A., 108 1765, 1937  
16 Bradley, C Am J Psychiat, 94 577, 1937  
17 Thien, H N J Kansas Med Soc, 38 208 1937  
18 Donley, D E Ohio State Med J, 33 1229, 1937  
19 Meerloo, A M Nederlandsch Tijdschrift v Geneeskunde (Amsterdam) 81 5797, 1937  
20 Reiter, P J Ugesk f laeger, 99 459, 1937  
21 Hill, J Brit. Med J, 2 1109, 1937 and Practitioner, 138 297, 1937  
22 Woolley, L F Psychiat Quart., 12 66, 1938  
23 Gwynn, H B and Yater, W M Med Ann of D C. 6 356, 1937

24 Myerson, A Arch Neurol and Psychiat, 36 816 1936  
25 Waud, S P J A M A, 110 206, 1938  
26 Sargent, W, and Blackburn, J M Lancet, 2 1385, 1936  
27 Molitch, M, and Sullivan, J P Am J Orthopsychiat, 7 510, 1937  
28 Molitch, M and Eccles, A K. Am J Psychiat., 94 587, 1937  
29 Barmack, J E J Psychol., 5 125, 1938  
30 Anderson, E W and Scott, W C Lancet, 2 1461, 1936  
31 Davidoff, E and Reifenstein, E C, Jr J Lab and Clin Med, 23 700, 1938  
32 Myerson, A, Loman, J, and Dameshek, W Am J Med Sci, 102 580, 1936  
33 Reifenstein, E C, Jr, and Davidoff, E Proc Soc. Exper Biol and Med, 38 181, 1938  
34 Davidoff, E and Reifenstein, E C, Jr Psychiat Quart., to be published (Read at the Up-State Inter-Hospital Conference, Marcy, New York, April 23 1938)  
35 Idem Am J Psychiat, to be published (Read at Am Psychiatric Assoc Convention at San Francisco Calif, June, 1938)  
36 Reifenstein, E C, Jr and Davidoff, E J A. M A., 110 1811, 1938  
37 Idem Unpublished data  
38 Dameshek, W, Loman, J, and Myerson, A. Am J Med Sci, 105 88 1938  
39 Myerson, A. and Ritvo, M J A M A., 107 24, 1936  
40 Smith, O N and Chamberlin, G W Radiol, 20 676, 1937  
41 Van Liere, E J, and Sleeth, C K. J Pharmacol and Exper Therap, 62 111, 1938  
42 Beyer, K H and Meek, W J Proc Soc Exper Biol and Med, 37 74, 1937  
43 Ritvo, M Am J Roent., 30 803, 1936  
44 Meyerson, A, Rinkel, M, and Dameshek, W New Eng J Med, 215 1005, 1936  
45 Starr, I Read at Am College Physicians Convention, New York City, April 6 1938  
46 Schube, P G, Ritvo M, Myerson, A, and Lambert, R New Eng J Med, 216 694, 1937  
47 Flexnor, J Brugger M, and Wright I S J Pharmacol and Exper Therap, 62 174, 1938  
48 O'Connor, D M Brit Med J, 1 43, 1937  
49 Ulrich, H New Eng J Med, 217 696, 1937  
50 Myerson, A J A M A., 110 101, 1938  
51 Bertolet, J A Med J and Rec., 136 75 1932  
52 Idem Clin Med and Surg, 44 25, 1937  
53 Byrne, H V New Eng J Med, 209 1048, 1933  
54 Scarrano, J A. Med Rec, 140 602, 1934  
55 Idem Ibid, 143 101, 1936  
56 Wood, E L Arch Otolaryng, 21 588 1935  
57 Idem J Med Soc N Jersey 33 410, 1936  
58 Giordano, A. A. S Penn Med J, 39 20, 1935  
59 Sulman, L D Med Times and L I Med J, 63 374, 1935  
60 Israel S Laryngoscope, 46 305 1936  
61 Hulka, J H. Arch Otolaryng, 23 692, 1936  
62 Scarrano, J A and Coppolino, J F Arch Pediat, 54 97, 1937  
63 Vollmer, E S Arch Otolaryng, 26 91, 1937  
64 Boyd, E M and Connell, W F Am J Med Sci, 104 768 1937  
65 Detrick, L E, Millikan, R., Modern, F S, and Thienes, C H J Pharmacol and Exper Therap 60 56, 1937  
66 Boyd, E M Proc Soc. Exper Biol and Med, 37 127 1937  
67 Alles G A and Prinzmetal, M J Pharmacol and Exper Therap, 48 161, 1933  
68 Tainter, M L, Pedden, J M, and James, M Ibid, 51 371, 1934  
69 Pedden, J M, Tainter, M L, and Cameron, W M Ibid, 55 242, 1935  
70 Cameron, W M, and Tainter, M L Ibid, 57 152, 1936  
71 Myerson, A and Thau, W Arch Ophthal, 18 78, 1937  
72 Beach, S J, and McAdams, W R. Trans Am Ophthal Soc., 1937  
73 Idem Am J Ophthal, 21 121, 1938  
74 Powell, L S and Hyde, M. E J Kansas Med Soc, 39 1, 1938  
75 Idem Ibid, 39 57, 1938  
76 Myerson A and Thau, W Arch Neurol and Psychiat., 39 780, 1938  
77 Stewart, W in discussion on Long, W L Arch Neurol and Psychiat., 37 1207, 1937  
78 Finkelman, I and Shapiro, L B J A M A., 109 344, 1937

- 79 Matthews, R. A. *Am. J. Med. Sci.* 195 448 1938.  
 80 Schnube P G McNamamy, M. C. Trapp, C F and Meyerson A. *Am. J. Psychiat.* 94 27 1937  
 81 Ehrlich, W E and Krumbhaar F B: *Ann Int Med.* 10 1874 1937  
 82 Lessem, M F and Myerson A. *New Eng J Med.* 218 119 1938.  
 83 Davies, J J. *Brit. Med J* 2 615 1937  
 84 Schnube, P G Raskin, N and Campbell E. *New Eng J Med.* 216:922 1937  
 85 Lagen T B., Soley, A. H. and Leake T B. *Proc. Soc. Exper Biol. and Med.* 35 270 1936.  
 86 Molitch M. and Pollakoff S. *Arch. Pediat.* 54 683 1937  
 87 Robinson, L. J. *New Eng J Med.* 217 952 1937  
 88 Idem *Arch. Neurol. and Psychiat.* 39 644 1938.  
 89 Molitch M and Pollakoff S. *Arch. Pediat* 54 499 1937  
 90 Carlisle, C. L. and Hecker C H. *Med Bull Vet. Admin.* 13 224 1937  
 91 Korns H. M. and Randall, W. L. *Am. Heart J* 13 114, 1937  
 92 Flieser, G. Miller H and Allen G A. *J.A.M.A.* 94 790 1930  
 93 Appenberg, D. *Ibid* 110 575 1938  
 94 Boynton R.: *Minnesota Daily* p 3 March 12 1937  
 95 Editorial *Ibid*, p 2, May 11 1937  
 96 Time, p. 45, May 10 1937  
 97 Editorial *Pharmaceutical J* 138 539, 1937  
 98 Allen B V: *Minn. Med.* 20: 301 1937  
 99 Miller H. *Calif. and West. Med.* 46: 295 1937  
 100 Editorial *J.A.M.A.* 108: 1978, 1937  
 101 Abstract *Lancet*, 1 14<sup>th</sup> 1937  
 102 Editorial, *Brit. Med. J* 2 625 1937  
 103 Report of the Council on Pharmacy and Chem. *J.A.M.A.* 109 2064 1937  
 104 Editorial *Ibid* 110 901 1938  
 105 Wand S P. Personal communication.  
 106 Myerson A. *J Nerv and Ment Dis* 85 202 1937  
 107 Bloomberg W. *Ibid* 85 202, 1937  
 108 Solomon, P and Prinzmetal M: *Ibid* 85:202 1937  
 109 Sobin D J. *J Speech Disorders* 2 203 1937  
 110 Fraser F R. McGeorge, M and Murphy G E. *Clinical Science (London)* 3 77 1937  
 111 Thorner M. W. and Vaskin, J C. *Am. J Med. Sci.* 194 411 1937  
 112 Davis, P L. and Shumway Davis M. *J.A.M.A.* 108 1247 1937  
 113 Tovell R M. *Proc. Staff Meetings Mayo Clinic* 11 585 1936  
 114 Poole, E B. and Wilkinson, O R. *South Med J* 30 1220 1937  
 115 Hirsch R. B. *Brit. Med J.* 2 187 1937

## A FEW TIMELY DON'TS

The committee on fractures of the American College of Surgeons has announced a series of rules for laymen and physicians to follow in first aid to victims of injuries to the spine. Among the rules are

Unless there is imperative need to move an individual suspected of having a spinal injury to a zone of safety the injured is best not moved or lifted until medical aid reaches him. If the injured must be moved the committee proposes the following first-aid methods

If a patient complains of pain in his back he may have a broken back. If he complains of pain in his neck he may have broken his neck. Never lift an injured person or his head until he has told you whether he can move his legs or fingers. If he cannot move his legs his back is broken. If he cannot move his fingers, his neck is broken. In both cases the spinal cord is injured. If you lift his head to give him a drink of water or if you fold him up to carry him, you inevitably grind the injured spinal cord between parts of the broken spine and destroy any useful remnant of the spinal cord which may have escaped injury in the accident. Do not allow the victim to sit up

## SUPERSTITIONS NEVER DIE

Some of the money being raised for the voluntary hospitals by the United Hospital Campaign Committee will be used to rid patients of their superstitions

Every day in the hospital clinics some age-old superstition turns up. And it isn't only the illiterate who believe in them.

Here are a few revealed in a survey by the campaign committee

A junior at Columbia University came to one of the clinics for an earache. In the ear the doctor found a small piece of garlic which the student had placed there in the hope it would drive away the ache. It was a variation of the old device of hanging a bag of garlic around the neck.

Then there is the professor of metallurgy who from October 1 to May 1 always wears a girdle of two thicknesses of red flannel ten inches wide around his waist to ward off colds. The professor told the Medical Center doctor that the band works.

Another doctor at one of New York's largest voluntary hospitals said a patient from one of the wealthiest sections of the city came to him for treatment for dog bite.

Under the bandages the doctor found a long black hair—the hair of the dog that bit the man

On leaving school every Scottish boy and girl will be presented with a copy of 'The Rules of Health' an attractively printed booklet issued by the Department of Health. There are six short paragraphs under the headings 'Fresh Air and Exercise,' 'Rest,' 'Food,' 'Care of the Body,' 'Medicines' and 'Care of the Mind'

Assemblyman Irwin Steingut, of Brooklyn, has announced that he will introduce a bill at this session of the legislature to set up a system of state health insurance, according to the New York papers.



# THE TRYPTOPHAN REACTION

## An Aid to the Early Diagnosis of Meningeal Tuberculosis

J ARTHUR BUCHANAN, M D , and HARRY BALLWEG, M D , Brooklyn

**T**HE diagnosis of meningeal tuberculosis in adults offers a difficult problem in many instances. The tryptophan reaction as modified by Baxter of Glasgow offers assistance.<sup>1</sup> We report the following case which was positively diagnosed prior to death by the use of the Baxter modification. The test is used in other countries, but rarely in the United States.<sup>2-9</sup>

### Case Report

On November 6, 1937, a twenty-seven-year-old white, married, somewhat obese female entered Wyckoff Heights hospital with stiffness and aching pain in the neck. For about two weeks previously there had been general malaise, headache, and weakness. During the week previous to admission there had been frequent vomiting of a regurgitant nature, and moderate diarrhea, both of which ceased before admission. For two days before admission, the patient had experienced generalized abdominal cramps. The nuchal rigidity and pain developed on the day of admission. Past medical and family history were entirely negative.

The patient appeared listless, but oriented and mentally clear. Rectal temperature was 100.4° F, pulse ninety-two, respirations twenty-four. There was marked nuchal rigidity, positive Kernig's sign bilaterally, and right Babinski. Abdominal reflexes were absent, likewise the knee jerks and other tendon reflexes. There was generalized skin hyperesthesia. The fundi showed all details of eye grounds hazy and somewhat obliterated. The discs were not swollen, but the margins were somewhat indistinct. The retinal vessels, especially the veins, were overfilled and tortuous.

The urine analysis was negative. The hemogram showed a moderate polymor-

phonuclear leukocytosis. The spinal fluid showed a pressure of forty mm of mercury. The fluid was clear and contained 450 white blood cells per cu mm, of which ninety-five per cent were lymphocytes. The globulin was increased and sugar absent. No organisms were seen on Gram stain, Ziehl-Neelsen stain, or in culture. The blood and spinal fluid Wassermann reactions were negative. A nontypical fibrin web developed in the spinal fluid on standing.

Tuberculous meningitis was suspected, although there was nothing in the history or the nutrition of the patient to substantiate the diagnosis. The organisms could not be demonstrated microscopically in the spinal fluid. A guinea pig was inoculated with the fluid. While waiting for the results of the inoculation the tryptophan reaction as modified by Baxter was carried out and yielded a positive result on November 10.

The patient became more drowsy, stuporous, developed ocular palsies, became comatose, and died November 17. Spinal puncture had been performed daily and a steady increase in the fluid pressure was noted. Except for minor changes in the spinal fluid cell count from day to day, the findings were stationary. The tryptophan reaction was positive the second time on November 14, but the reaction was not studied on the intervening days. The test when carried out as described by Aiello gave negative results.<sup>10</sup>

At autopsy, a glary mucoid fibrinous exudate was found attached to the dura mater at the base of the brain. Similar plaques were found on the superior surface of the cerebrum. The bacillus of tuberculosis was demonstrated in this exudate. At the hilus of the left lung a small lymph node, one cm in diameter

was found. It was undergoing caseous necrosis and evidently was the disseminated focus.

### Technic of Test

**Reagents needed** (1) Hydrochloric acid (concentrated) (2) Two per cent formalin solution. This is made by diluting formaldehyde 1:20 with distilled water. (3) 0.08% sodium nitrite solution.

**Steps** Place two or three cc. of spinal fluid in a large test tube. Add fifteen to eighteen cc. of hydrochloric acid and two or three drops of two per cent formalin. Shake well and let stand for four minutes. Carefully layer with one or two cc. of sodium nitrite solution, and let stand for two minutes.

**Reaction** The test is considered positive when a delicate violet ring is apparent at the juncture of the mixture and the sodium nitrite solution. Brown rings are to be considered as negative.

Blood stained or frankly purulent fluids are apt to give pseudo-positive reactions.

**NOTE** In the test as described by Aiello<sup>10</sup> 0.5 to 0.8 cc. of concentrated hydrochloric acid were used.

### Summary

The tryptophan test as modified by Baxter should be used as a diagnostic aid in the study of otherwise undiagnosable cases of meningitis. This case is reported to stimulate interest in its use, as it is not in common use at the present time.  
510 Ocean Ave.

### References

1. Baxter Henry: *Edinburgh Medical Journal*, 44: 663 (1937).
2. Spillane, J.: *Lancet* 1: 560 (1937).
3. Aiello G.: *Med. (Ital.)*, 13: 184 (1932).
4. Camacho Melean O.: *Rev. Chilena de Pediat.*, 4: 49 (1933).
5. Rosenblatt M. B.: *Am. Rev. Tuberc.*, 29: 668 (1934).
6. Schumacher H. M.: *Ztschr. f. Kinderh.*, 86: 626 (1934).
7. Hoch, H.: *Monatschr. f. Kinderh.*, 66: 41 (1936).
8. Brugi A.: *Pensiero med.*, 13: 583 (1933).
9. Lichtenberg H. H.: *Am. J. Dis. Child.*, 43: 32 (1933).
10. Aiello O.: *Riforma Med.* 1927: xlii (1936).



Every dollar contributed goes toward the maintenance and comfort of our guests. Join with us in remembering your less fortunate colleagues.

Make checks payable to: PHYSICIANS HOME 52 East 66th St., New York City

# SURGICAL TREATMENT OF DISEASES OF THE COLON

THOMAS E. JONES, M.D., Cleveland, Ohio

**I**N THIS communication, only the more common conditions of the colon which require surgical treatment will be considered, namely, diverticulitis, polyposis, chronic ulcerative colitis, regional ileitis, and cancer of the colon

## Diverticulitis

The surgical problems which are present in the treatment of diverticulitis do not, I believe, parallel those in acute appendicitis. In reading case reports in the literature, one is impressed by the number in which exploratory operation was done in the acute phase of the disease with termination in death due to peritonitis within a few days. One is justified in wondering whether or not a certain percentage of these cases might have localized in a period of days and surgical intervention later might have been safer. Personally, I think that this condition calls for more individualization than does acute appendicitis and, while one may make generalized rules, each case must be studied carefully.

One clinical fact is outstanding—even though the diverticula may be very extensive and invade the entire colon, diverticulitis with its complications is practically always confined to the sigmoid colon. This is probably due to the smaller caliber of the bowel and the firmer stool in the sigmoid area.

The symptoms of diverticulitis vary greatly according to the pathologic condition found. There may be only mild attacks of pain in the left lower quadrant or there may be any graduation up to the signs and symptoms arising from the graver complications, namely, perforation with peritonitis, obstruction, or localized abscess with eventual formation of a fistula. An accurate history is invaluable in establishing a correct diagnosis. Differential diagnosis will not be discussed here.

Any given case in which operation is

not performed will terminate in one of the following ways

1 It may completely resolve, but this does not militate against subsequent attacks either in the same diverticulum or in others in the same segment. This is the chronic variety and strict medical management should be instituted to prevent recurrence.

2 Perforation may occur

(a) Into the rectum with discharge of pus. This is a fortunate and happy sequel.

(b) Into the bladder. This is an unfortunate complication.

(c) Into the surrounding tissues where it generally is walled-off.

(d) Without becoming walled-off but is generalized with resultant peritonitis. This is the exceptional case and not the rule.

3 Obstruction may result where the process is not resolved. This is due to the great thickening of the mesentery and all coats of the bowel.

The problem that confronts us then is, should we operate, and, if so, when is the optimum time? The fulminating cases are so rare that the diagnosis is seldom made until a well-advanced peritonitis has developed for which surgery is of no value. Most of the cases are of the subacute variety and, as the problem does not constitute an emergency, sufficient time may be taken to make a more accurate diagnosis. Roentgen examination is of great assistance in localizing the diverticula and their extent, so with this knowledge, a well-planned operative procedure may be carried out.

In cases where the symptoms of obstruction are predominant and there is little or no rise in temperature and a mass is detected either by bimanual or abdominal palpation, operation must be performed for the relief of the obstruction. If roentgen examination has shown

the diverticula to be limited to one segment of the bowel and if no abscess is present, then that segment may be removed by an operation of the Mikulicz type. This will insure the patient against future attacks. If, however, roentgen examination shows extensive diverticula in the sigmoid, the patient still may experience attacks in the remaining diverticula so that, in this type of case, I believe a colostomy should be performed well above the involved area. This will remove the symptoms of obstruction and allow the inflammatory process in the affected area to subside. The patient should keep the colostomy for at least six months and preferably one year, in the meantime, through and through irrigation of the distal segment should be carried out. After subsidence of all symptoms, the colostomy may be closed but the patient must be informed that a recurrence is always possible unless he follows a strict medical management of his bowel.

If a surgeon inadvertently discovers this condition during an exploratory operation for an acute abdomen, extensive surgery is contraindicated. A colostomy should be done well above the inflamed area and resection with anastomosis may be performed at a later date after the inflammatory process subsides.

In dealing with the subacute variety where the outstanding features are pain and temperature up to 100 or 101°, I am a firm believer in conservative management. If perforation into the rectum occurs, the problem is solved. If an abscess forms, it is generally lateral to the sigmoid and may be opened when the tumefaction appears, very much as an appendiceal abscess is evacuated. If symptoms of obstruction intervene during this period of waiting, a cecostomy or transverse colostomy should be done.

Following evacuation of the abscess, a fistula may result which may or may not close spontaneously. After a time, the fistula will be only a small sinus tract and I have seen closure occur as late as nine months after operation. Such a fistula causes little inconvenience to the patient and he should be encouraged to keep it be-

cause its closure is not a simple matter. Excision of the sinus with inversion of the bowel is very difficult to do and the fistula will recur in most cases, so that to obtain a cure it becomes necessary to do a resection of that segment of the bowel containing the fistula. That involves a three-stage procedure which is not often justifiable.

Particularly distressing are those diverticula which have become fastened to the bladder and which result in a vesicocolic fistula. Obviously something must be done surgically, but I feel very strongly that the surgeon should not go in, resect the fistula, close the bladder, and close the bowel in one stage. The mortality from peritonitis or reformation of the fistula under such circumstances will be high. It is eminently more satisfactory to do a preliminary colostomy and free the urinary tract from infection which has resulted from the fistula before the secondary operation is undertaken for repair of the fistula by whatever means may be indicated.

In a review of the last twelve cases which have come under my observation, I find that treatment varied to some degree so that I cannot present any definite plan which may be followed. The underlying principle of conservatism, however, could be traced throughout the series.

### Polyposis

Polyposis of the colon may be either of two types—the congenital or familial type or the acquired or inflammatory type. The inflammatory type is the most common and is generally associated with ulcerative colitis. My discussion of this subject will be confined to the congenital or familial type.

Congenital or familial polyposis is a relatively rare condition but very important from the standpoint of incapacity of the individual and also because, if untreated and if the patient lives to adult life, 100 per cent of the polypi invariably become malignant. Adenomatosis is a more descriptive term than polyposis for this condition. These adenomata are found chiefly in the rectum and sigmoid

but may invade the entire mucosa from the rectum to the ileocecal valve and sometimes beyond that. It is definitely familial in type and has been traced through three generations in many families and anywhere from forty to eighty per cent of the offspring will be afflicted. McKenney<sup>1</sup> of Buffalo has done a magnificent piece of work along these lines by tracing it through many families.

Ewing<sup>2</sup> states that nowhere else can the change from normal mucosa to gland cell hypertrophy, adenoma, and adenocarcinoma be so clearly demonstrated as it may in this disease. Malignant degeneration of these adenomata may be single or may occur simultaneously in many, as demonstrated in several of our cases.

From the standpoint of diagnosis, I should like to warn against a feeling of security when a biopsy report shows no malignancy. This is very misleading, for it may well be that a polyp higher up and out of sight is malignant.

The original treatment advised was ileostomy with complete colectomy, this being the only thing that would insure against malignant degeneration. This was a very formidable procedure and the mortality was high. Furthermore, ileostomy with its continuous liquid drainage is far more distressing than colostomy with solid stool. For these reasons, patients were frequently neglected. A report of the following case will serve to illustrate what I believe is a better procedure for the handling of this condition.

In 1926 I was consulted by a twenty-five-year-old woman who was suffering from multiple, congenital adenomatosis. The diagnosis was made elsewhere and surgical treatment advised. This was refused when the patient learned of the permanent ileostomy. When she consulted me months afterward, she was having considerable hemorrhage, diarrhea, and pain which indicated the presence of obstruction. She was very anemic and there was a marked loss in weight. After considerable urging, she finally consented to a cecostomy which I told her would probably be temporary and could be closed after the symptoms of obstruction

had disappeared. During the next few months she had gained considerable weight and the symptoms of toxemia disappeared following through and through irrigation of the colon. Bleeding still occurred, however. On proctoscopic examination I noted that the size of the adenomata had decreased considerably from that seen at the original examination. Much of the edema and inflammatory reaction had disappeared due to less infection. In order to stop the bleeding, I began to fulgurate these adenomas of which there were hundreds in the rectum and sigmoid. This was repeated monthly for many months, fifteen to twenty adenomas being destroyed at each time. The patient felt so well and happy that I confess that I did not concern myself with the future.

Suddenly it occurred to me that I had cleared the way high enough so that I could make an anastomosis between the ileum and the sigmoid and remove the remaining colon from the sigmoid to the cecum, thereby preserving the rectum where none of the adenomas had recurred. Why this did not occur to me before I do not know because it would have saved valuable time. However, when I approached her with what I thought was a splendid idea, she was feeling so well that she declined operation. Finally, however, after about six months' urging and also due to the fact that there was still some bleeding from the adenomas out of reach, she decided to submit to operation. I performed an ileosigmoidostomy below the point where I could feel the adenomas, and six weeks later removed the colon which contained hundreds of polyps from the cecum to the sigmoid, many being ulcerated. She made an uneventful recovery, gained sixty pounds in six months, and felt well for nearly four years. Then she came in complaining of a mass in the left lower abdomen. Proctoscopic examination revealed no adenomas in the rectum. Exploration revealed a hard mass of glands retroperitoneally which proved to be adenocarcinoma of the mucoid type. What had happened, of course, was that one of these many adeno-

mas had become malignant and there was glandular involvement, although not apparent at the time of the colectomy. Obviously it was impossible to make sections of all these adenomas from the specimens removed.

The moral of this case, of course, is to perform the colectomy earlier. Here we lost about three years of valuable time. In recent cases we have sent the patients to the hospital and, under spinal anesthesia, cleared up the condition in the rectum and sigmoid in one or two sittings, then performed the operation. I have just described as soon as possible. I believe that by this method of treatment where we can promise restoration of the continuity of the bowel, we will be able to secure these patients' co-operation earlier and the future should be much brighter.

### Chronic Ulcerative Colitis

Chronic ulcerative colitis has been attacked perhaps by more different types of therapeutic agents than any other disease with the possible exception of pruritis ani. It has always been recognized as a desperate condition when it necessitated surgical intervention, for many of these patients were moribund when they arrived for surgery. The older surgical method was that of ileostomy to sidetrack the fecal stream and thereby put the colon at rest. By this procedure and the use of irrigations, a certain number of individuals could be salvaged. Surgery, due to the failure of medical means, was making progress and patients were treated earlier until Bargen ascribed the etiology to an organism of the diplostreptococcus variety. This again stimulated medical men to use sera and vaccines, and again the only patients the surgeon saw were those who could not come into the office for more injections. Again the mortality of ileostomy took a sudden rise, for many of these patients had perforations and peritonitis.

From what information I have, it seems that the new sera and vaccines have been disappointing in the hands of most medical men and, until the time when something more promising comes along, I be-

lieve we must go back to surgery in the earlier cases. I am sure no surgeon relishes these cases but we would rather have early ones than late. I think the medical man must be fair in the evaluation of his treatment and, if it fails, he must admit it early and refer his patients to the surgeon before months or years have elapsed. It must be borne in mind that many of these patients have spontaneous remissions from recurring attacks, which may be attributed to the therapy instituted, but yet on proctoscopic examination there may be little or no change in the gross appearance of the bowel wall. The remission from symptoms merely means that the acute flare up higher in the bowel has become chronic and with succeeding attacks more of the bowel wall becomes involved so that eventually the whole colon from the rectum to the cecum is affected. It is generally conceded that this disease begins in the rectum in at least ninety per cent of the cases and extends upward with each succeeding exacerbation. I think that we are again at the place where we must advocate early diversion of the fecal stream to put the bowel at rest and then carry on such medical measures as are indicated.

From the surgical point of view, early operation is the only alternative in cases where it is hoped that the ulcerative process will subside so that the ileostomy can be closed at a later date. In the long-standing, neglected cases, the ulcerative process has destroyed the mucosa and infiltrated the muscularis with so much fibrous tissue that the lumen becomes greatly constricted, so that when ileostomy is done at this stage, one can never hope for physiological and anatomical restoration of the bowel sufficient to close the ileostomy with safety.

In some cases, ileostomy is sufficient for complete relief of symptoms. However, in a certain number of cases, the patient does not thrive and gain, due to absorption from the infected, ulcerated colon left in place, and colectomy becomes necessary. In view of the fact that these patients are a bad risk due to their poor physical condition, colectomy should be a graded pro-

cedure The colon should be removed in either two or three stages, removing the right half around to the mid transverse colon first, then the remainder down to the sigmoid and, lastly, the rectum In about ten per cent of the cases, the disease may be segmented, that is, it may be limited to the ascending colon or the transverse or descending colon or the sigmoid and yet the proctoscopic examination will give entirely negative findings I think that in the segmental variety the treatment of choice is early ileostomy or colostomy with resection of the affected area after a period of rest and irrigation In this manner the continuity of the bowel may be preserved

Heretofore, in the treatment of ulcerative colitis, the theme has been medical treatment versus surgical treatment when, as a matter of fact, it proves to be a bigger job than both can handle together The internist, the surgeon, and the proctologist must collaborate from the onset of the disease if better end results are to be obtained

### Regional Ileitis

This disease entity, which was originally described as affecting the terminal ileum only, has been definitely shown to involve the colon also To Crohn<sup>3</sup> of New York belongs the credit for stimulating our interest in this condition In my experience, when the colon was involved, the ileum was involved also, and it may have been and probably was the original sight of the pathology The symptoms at the onset closely simulate those of appendicitis and, in seventy-five per cent of our cases, the appendix had been removed In fifty per cent of our cases, the patient came in because of fistula after the appendectomy Formation of a fistula, either external or between the coils of intestine, is a characteristic of this disease

If a diagnosis of acute appendicitis has been made and the findings at operation are not in keeping with that diagnosis, it is a good principle to examine the lower few feet of the ileum If this acute inflammatory condition is found, I would advise against appendectomy because it

will frequently result in a fistula Surgery on the ileum is not advised during this acute phase—rather nothing should be done and the ileum removed after the inflammation has subsided and reached the chronic state If, however, there is some obstruction, an ileocolostomy can be made, using a loop of ileum at least two feet away from the disease process

When the colon has been involved in the cases I have seen, it has always been adherent and densely adherent to the small intestine with resulting fistulae between the coils

The treatment is surgery which consists of wide removal of the pathologic process, great care being taken during the procedure not to contaminate healthy structures The general principles underlying intestinal surgery apply here and, inasmuch as the surgical removal of certain segments will be referred to when malignancies of the colon are considered, I shall not discuss them here on account of their similarity

### Cancer of the Colon

In recent years, many factors have contributed to encourage surgeons to attack the problem of cancer of the colon—improvements in technic, better pre- and postoperative care in hospitals, better selection of cases, all of which have increased the horizon of operability and lowered the mortality rate But there is small question that the greatest advance in surgery of the colon has come from the hands of the roentgenologist because the increased diagnostic efficiency has made for earlier recognition of organic lesions in this portion of the gastrointestinal tract It is regrettable, however, that this efficiency has made too many of us lazy It has become too easy or perhaps too cheap to say "have an x-ray" without doing the simple digital and proctoscopic examinations which will establish the diagnosis in seventy-five per cent of the malignant lesions of the colon and rectum This is even more regrettable because a negative x-ray report on this particular location—the rectum and rectosigmoid—is absolutely unreliable on account of the

size of the rectal ampulla and the many coils which may obscure an accurate view. For his own protection, I would be happy to see the time come when a roentgenologist would refuse to do an examination of the colon unless the patient had had digital and proctoscopic examinations. A roentgenologist sit-down strike here would be invaluable to us all and would render a real service to the patient.

*Cecum and Ascending Colon*—A one or two-stage operation may be used for cancer of the cecum and ascending colon. In the two-stage procedure, the first stage consists in a side to-side anastomosis of the ileum to the transverse colon. It is obvious that an end to-side anastomosis cannot be made because, if something happens which delays the second stage for some time, the closed distal end of the ileum may blow out if obstruction intervenes. The second stage consists of the removal, being sure not to leave too large a blind pouch in the colon. I have always done the one stage in all cases except the occasional one where the ileum is dilated. The ileum is cut off and an end-to-side anastomosis made into the transverse colon. The Rankin clamp is very useful for this procedure, for a closed operation may be performed by its use. In the one stage operation it is essential or at least advisable to insert a catheter in the ileum about eight inches from the anastomosis. This remains in place for five or six days and acts as a safety valve.

Resection of the *transverse colon* may be done in many ways

1 Resection with end to-end anastomosis. This, however, is not a safe procedure in one stage

2 Mikulicz type of operation. This is not entirely satisfactory because of the liquid contents in the transverse colon. It seldom closes spontaneously and repair must be done before it is eventually closed. Furthermore, incisional hernia generally results, which must be repaired later.

The preferable operation is to put a large tube into the cecum and ten to fourteen days later do a resection by the closed method with end to-end anastomosis,

using either the Rankin clamp or the Karr basting stitch. If the tube is properly sewn into the cecum, the sinus will close itself.

Fortunately, carcinoma of the *splenic flexure* is rare. I think it is probably the most difficult of all the segments to remove, because of the hip fixation. A Mikulicz type of operation may be performed or better cecostomy with end to-end anastomosis later.

In cancer of the *descending colon and sigmoid*, the Mikulicz operation or Rankin's modification of it has been in great favor, chiefly because of its safety as a one-stage procedure. However, it has many shortcomings. It seldom closes spontaneously so that another operation is generally required for closure because the mucosa soon becomes adherent to the skin thus preventing its closure. In the performance of this operation, one is apt to remove insufficient involved mesentery and, if this occurs, there is transplantation into the abdominal wall which eventually results in open ulceration. Because I have seen many cases end this way, it has discouraged me from its use. To me it seems preferable to do a transverse colostomy and in two weeks, do a clean, radical operation with anastomosis. The colostomy is then closed in about two weeks.

### Cancer of the Rectum

When a patient with rectal bleeding presents himself for examination, don't be content with a visual inspection of the anus to determine whether hemorrhoids are present, but do a digital examination and if negative, a proctoscopic examination. You, as well as the patient, will be relieved if a malignancy is not found. Only after this procedure has been carried out should the roentgen examination be done. I know a physician in a community not far from mine who made a reputation years ago because he made the patient take off his coat and vest before examining the chest with a stethoscope. I am sure that you will be amply rewarded if you make this simple routine of digital and proctoscopic examinations for rectal bleeding.



If a lesion is found and you are not certain of its nature, the next question that presents itself is, shall we do a biopsy? That depends entirely upon your experience. In case of any doubt, by all means do a biopsy. I feel that a great deal of harm was done ten or twelve years ago by those who advocated that cancer would be spread by biopsy. Do not be intimidated. Far less harm is done by taking a biopsy than by sitting idly by and watching the cancer grow to such proportions that its margins, elevations, and its craters may even spell the word cancer. Furthermore, a hundred and fifty dollar electrocautery machine is not required to do a biopsy. The scissors, snare, or knife will be sufficient.

The diagnosis having been made and the procedure decided upon, the patient should be told that he has a serious disease which requires immediate surgical attention. I do not think it is fair to minimize the complaint for fear of shocking the patient. I have seen too many of these patients delay operation for months because, just to save his feelings, the doctor told him he had a little ulcer. Naturally, the patient does not see why he has to have a major operation for a little ulcer, so he tries some medicine for a while and, even in this enlightened age, many doctors give medicine for such a lesion.

It is appropriate at this time to speak of gradation of tumors because, when the diagnosis of carcinoma comes back to you, it will be followed with the notation, Grade I, II, III, or IV. Grade I is supposed to be a good cancer, Grade IV a bad cancer. Word seems to have gotten around that cancers of Grades I and II, are to be attacked, but that it is not good cricket to attack Grades III and IV—these should be relegated either to radiation or some other nonsurgical treatment. With this opinion, I wholeheartedly disagree. I am in sympathy with everything that increases our knowledge relative to cancer and I think that grading of tumors is an excellent thing from an academic standpoint, but I am distinctly opposed to guiding therapeutic effort merely on

a pathologist's statement that this is grade so and so. At the present time, clinical judgment surpasses any laboratory test so far as the decision of treatment is concerned. The shortcomings of the grading of tumors as a criterion for the treatment to be used are too numerous to mention here. If a cancer of the rectum is clinically operable, operate regardless of whether it is Grade I or Grade IV and you will be doing the best thing for your patient.

The treatment having been decided upon, the patient should be encouraged to enter the hospital as soon as possible. Here, further investigations should be carried out and on the thoroughness of these examinations and adequate preoperative care depend the success of the operation. A thorough physical examination is essential. Studies of blood chemistry and tests of kidney function are important in order to ascertain the risks. In all men over sixty years of age, if they have any urinary disturbance whatsoever, a cystoscopic examination is necessary because of the possibility of associated prostatic hypertrophy which may prove disastrous if not recognized. In many of our patients, it has been necessary to do a resection of the prostate either before or after resection of the rectum. During the stay in the hospital, a high calorie, nonresidue diet is given. Glucose intravenously is administered to build up the glycogen reserve of the liver because many of the patients have been dieting for some time on account of bowel disturbance, the chief symptom of which has been diarrhea. This is not a true diarrhea, however, rather it is the frequent emission of pus, mucus, and blood from the ulcerated area. As a matter of fact in most cases of so-called diarrhea, the colon is filled with hard, dry feces and many days are required to empty the colon. For this purpose we give magnesium sulphate daily in divided doses for five or six days prior to operation. By this measure, it is felt that we can decompress the bowel in all cases of chronic obstruction just as well as by preliminary colostomy.

In the preoperative treatment the question of intraperitoneal vaccine naturally comes under discussion. I have never been impressed with its value when dealing with cancer of the rectum because peritonitis as a cause of death has played a minor rôle in our series of cases. To inject vaccine routinely in a large number of cases seems to me an unwarranted procedure. It must be remembered that the use of vaccine does not, by any means, eliminate peritonitis. It has been reported to lower the incidence. Meticulous technic is still far more important than intraperitoneal vaccine in its present form.

Operations for carcinoma in the various segments of the colon have been fairly well standardized but there is considerable discussion regarding those for the rectum and rectosigmoid. Many different types of operation are advocated. The chief reason for this is the controversy over the undesirability of the colostomy. Posterior resection with perineal anus still has its supporters and many different varieties of operations have been designed. Now, other types of segmental resection are being tried anew. However, one has only to look over the records of older, just as able surgeons and from them these facts are learned—viz., that the operability was low, the mortality high, and the curability rate low. Such is the story from smaller operations or operations devised to save the sphincter. I am not one who believes in the statement handed down from textbook to textbook that cancer of the rectum is different from cancer elsewhere, that it tends to remain localized for long periods of time, and that glandular involvement occurs late. If that were true, why has the curability rate been so miserably low?

Cancer of the rectum and rectosigmoid demands just as radical a procedure as does cancer of the breast if we are to improve our curability rate—and radicalism from the standpoint of the rectum is best attained by the combined abdomino-perineal operation which was described by Miles<sup>4</sup> of London and which should bear his name regardless of a few varia-

tions in technic described by different operators.

This operation may be done in one or two stages and a surgeon must use that with which he is most familiar and which is best suited to the available facilities at his command. The name "two-stage" obviously carries with it the implication of the factor of safety but this does not necessarily follow. It must be remembered that, when two major procedures are performed on persons in this age group, the hazards of accidental death are increased beyond our control by two times. Emboli, pneumonia, and unexplained sudden death are a source of annoyance to all of us.

Then again, many things may happen during the first stage which may delay the second operation for a long time or may give rise to complications which may lead to abandonment of the second stage, such as pneumonia with empyema, severe infection of the abdominal wall, or phlebitis.

In addition, technical difficulties are encountered in the second stage which do not pertain to the one stage. Finally, the combined mortalities from the first and second stage will be greater than from the one-stage. For these many reasons, I personally have favored the one-stage procedure because, in a series of more than 350 cases, the mortality has been under ten per cent.

After preoperative preparation which averages about seven days and to which I attribute no little amount of success, anesthesia is the next thing of importance to be considered. I still favor spinal anesthesia because it induces relaxation and a quiet abdomen which lends itself to a more rapid performance of the operation. The deep Trendelenburg position is invaluable on account of the deep pelvic dissection which is necessary. The abdominal part of the operation consists of about nine simple, straightforward maneuvers which, if carried out methodically, simplify an otherwise laborious, time-consuming task. The perineal part of the operation is expeditiously done provided the abdominal dissection has been

thorough, otherwise, it likewise will be too time-consuming

Blood transfusion is routine either before or after operation, sometimes before and after, depending upon the condition of the patient. Postoperative treatment is symptomatic

The colostomy is opened on the second or third postoperative day depending upon the gas pains the patient experiences. The wound is protected with vaseline gauze over which rubber tissue is placed. I feel that infected wounds occur at the time of operation and are not caused by early opening of the colostomy, provided ordinary care is exercised. About ten days after operation, the colostomy is trimmed down to about one-quarter of an inch above the level of the skin so that the healed wound is just about at the skin level or slightly above it.

In the last 200 cases, we have been bringing the colostomy out at the midline and have found it infinitely better from many standpoints. *First*, it saves time during the operative procedure, *second*, if a colostomy bag is worn, the patient looks symmetrical and not lopsided as is the case with the inguinal colostomy. This is very important in the care of the woman patient. Again, if an inguinal colostomy is used and the patient wears a colostomy bag, it generally rubs the crest of the ilium which leads to irritation and also leakage in case of accident due to improper fitting.

The care of the bladder is very important in these cases. Since extensive pelvic dissection is required, many sympathetic nerve fibers which innervate the bladder are destroyed and about seventy-five per cent of the patients will have some bladder disturbance for a month or two. Formerly we used a retention catheter for six or seven days but experience has taught us that it is better to catheterize the bladder three or four times a day, which practice has resulted in fewer complications. From twenty-five to thirty per cent of the patients will void spontaneously and cystitis will be avoided in at least this number, whereas it might have been contracted had a re-

tention catheter been left in place. In only one instance have we had permanent damage to the bladder and that occurred in a case where it was necessary to remove part of the prostate due to fixation. Probably the sphincter itself was interfered with here. Urinary antiseptics and frequent irrigations of the bladder are used to treat the infected bladder.

The rubber dam and gauze pack employed to support the new pelvic floor and prevent oozing at the time of operation are removed partly on the second, third, and fourth postoperative days, after which the cavity is irrigated with saline solution or sterile water until most of the discharge has subsided. After this, it is merely swabbed out with cotton pledgets. This is a simple procedure which is taught to some member of the family when the patient is discharged, for ten to twelve weeks are required for this posterior wound to fill in.

In a normal convalescence, the patient is allowed out of bed in twelve to fourteen days. This permits the new peritoneal pelvic floor to sag a little and thereby hastens the obliteration of this large cavity.

The performance of a successful operation does not mean, however, that the surgeon's obligation has been fulfilled. He must take time to instruct the patient regarding the care of the colostomy and on this instruction depends the happiness of the patient. The usual instruction is to tell the patient to go to a surgical supply house and buy a colostomy bag. That is a sure way to make him a social outcast. The odor from the rubber is far worse than the odor of the stool. Personally, in my preliminary instruction, I do not even mention that there is such a thing as a colostomy bag. The patient is taught to irrigate the colostomy himself, not to have some member of the family do it because this is always embarrassing to the patient. Many good types of apparatus are on the market, the only objection to them being the cost. All that is necessary is the ordinary enema apparatus with a little rubber disk on the enema tip which, when placed tightly against

the colostomy, will make it water tight.

Experience has taught us that daily irrigations are too frequent. The colon will be kept too clean and soon the patient will complain that he cannot get his bowels to move. We have found it best to irrigate every second day and in a few months, if this routine is carried out at the same time, the bowel will become practically an automaton.

Accidents between irrigations rarely occur and patients wear only a small pad under an abdominal binder suited to their individual tastes. Our instructions and demonstrations regarding the care of the colostomy are more time-consuming than the performance of the operation itself.

I have never been impressed with the desirability of giving the patient a constipating diet. Such a diet may cause diarrhea in another patient, so I tell them to follow the diet they have been accustomed to and eliminate from time to time such things as disagree with them.

The question of postoperative radiation is always a pertinent one. If the proper operation has been performed, there will be nothing left in the pelvis except small intestines, and I do not think it is a good policy to radiate them routinely.

In this group, we have operated on patients in an age range from twenty six to seventy four years. Five per cent of our patients have been seventy or over, and the mortality in this group is the same relatively as in the other age groups. Age alone is not a contraindication to operation. Many patients at seventy are better risks than some at sixty but I do think that good kidney function is essential in patients over seventy. Hypertension, arteriosclerosis, diabetes, and obesity have not deterred us from the performance of this operation.

Palliative operations are essential in a certain group of inoperable cases. Some patients are not benefited a great deal by colostomy, and it is important to study these carefully and make a distinction between the pain of obstruction and the pain of metastasis. Routine colostomy in the latter group will only add to the patient's misery and, in my estimation, is contra-indicated unless there is obstruction.

Operability percentage is always of great interest and, with this in mind, I reviewed one hundred consecutive cases of cancer of the rectum as the patients presented themselves for examination beginning July 1, 1937 and going back until 100 consecutive cases had been reviewed. Table 1 is quite informative and gives one a comprehensive picture of what happens in a definite group.

EUCLID AVE. AT 93RD ST  
(Cleveland Clinic)

## References

1. McKenney D. C., J.A.M.A., 107: 1871 (1936)
2. Ewing James, Neoplastic Diseases, Philadelphia W. B. Saunders Co. 3rd ed. 1928
3. Crohn B. B., Ginzburg L., and Oppenheimer G.: J.A.M.A., 99: 1323 (1932)
4. Miles, W. Ernest, Cancer of the Rectum, Harrison and Sons, London 1926.

TABLE 1

|                           |             |    |
|---------------------------|-------------|----|
| Total cases               | 100         |    |
| Did not return            | 10          |    |
| Inoperable                |             | 90 |
| no treatment              | 9           |    |
| palliative                | 11          | 20 |
|                           | (77%)       | 70 |
| Inoperable liver          | 10          |    |
| Inoperable local fixation | 3           | 13 |
|                           |             | 57 |
| Combined one-stage        | 54          |    |
| Other operations          | 3           | 57 |
| Deaths 4-7                | 2 per cent  |    |
| Operability               | 63 per cent |    |
| Mortality 4-7             | 2 per cent  |    |
| 3 peritonitis             |             |    |
| 1 embolus                 |             |    |
| 1 pneumonia               |             |    |

## EXPLOSION RISKS AT OPERATIONS

The danger of explosions in the operating room resulting from a union of static electricity in the atmosphere and anesthetic mixtures has been eliminated largely as the result of a new device which determines the exact amount of static electricity present. It is reported by Dr

Horatio B. Williams, before the Congress of Anesthetists in New York City.

When the new device shows that a dangerous amount of static electricity is in the air, more humidity which counteracts the electricity is pumped into the operating room by ventilation and water vapor.

## *Special Article*

### OUTLINE OF TREATMENT FOR SYPHILIS

Methods and Technic Followed in the  
Department of Dermatology of the Vanderbilt Clinic  
Part I of a series

A BENSON CANNON, M D , New York City

#### Table of Contents

|   | Page |
|---|------|
| Introduction  | 70   |
| When and How to Treat    General Instructions         | 71   |
| Beginning Treatment                                   | 71   |
| Continuous vs Intermittent Treatment                  | 71   |
| Choice of Drugs                                       | 72   |
| Dosage  | 72   |
| Treatment Schedules or Plans                          | 73   |
| Outlines of Treatment for Early Syphilis              | 73   |
| Preferred ("3-2") Plan                                | 74   |
| Alternate ("2-1") Plan                                | 74   |
| Outline of Treatment for Tertiary and Latent Syphilis | 75   |
| Outline of Treatment for Syphilis in Pregnant Women   | 75   |
| Outline of Treatment for Congenital Syphilis          | 76   |

#### Introduction

This outline is a résumé of the methods which the author has found from his own experience to be the most effective in the treatment of syphilis. The methods are in the main those worked out in the Department of Dermatology of the Vanderbilt Clinic. The conclusions presented were reached after many trials of different drugs, dosages, and systems of treatment, extending over a period of more than twenty years. No responsibility is assumed for reviewing methods in use in other treatment centers, in this country or elsewhere.

Although treatment alone is discussed here, it goes without saying that a diagnosis of syphilis must be definitely established before a patient is permitted to embark upon any course of antiluetic

treatment. Every patient, on his first visit, is given a thorough physical and neurologic examination. Usually a cardiogram also is taken at this time. In every case suspected of being early syphilis, the clinical diagnosis must be confirmed by a laboratory diagnosis—either a positive Wassermann confirmed by a second test, or the demonstration of *Treponema pallidum* in the secretion taken from the initial lesion, or from a skin papule or a gland puncture.

Once the diagnosis is established, the patient should be given instructions in regard to diet, rest, exercise, and personal hygiene. Patients with early syphilis in particular should be warned to take precautions against infecting others. If the patient is married, the wife or husband and any minor children should be exam-

*From the College of Physicians and Surgeons of Columbia University, New York City*

med In case of extra marital exposure, an effort should be made to induce the patient to send his partner to a physician

Every patient should have explained to him the nature of his disease, the necessity for regular treatment over a considerable period of time, and the importance of a follow up at regular intervals after the completion of the prescribed treatment. He should not be left with the illusion that the clearing up of external lesions or the first negative blood test indicates a cure, but he may be reassured that his chances of an ultimate cure are at a maximum if he follows faithfully the plan of treatment outlined for him by his physician

It is recommended that the physician, having studied his case and established his diagnosis, make out in advance for the year a scheme of treatment suited to the needs of his patient. If the patient is a young healthy adult with early syphilis, the physician will do well to follow one of the routine plans of treatment outlined in the following pages. If the patient is in a more advanced stage of the disease, or if allowance must be made for age or constitutional disability, a plan is equally important, but it must be adjusted to individual requirements. In this way the physician will avoid the responsibility for haphazard and desultory treatment which has given evidence of being worse than none at all

It is not claimed that this is the last word in antiluetic therapy. I believe that we are still far from having an ideal treatment plan, and that continued study and experiment will make possible many improvements. The following plan is submitted because it represents the best that we have been able to devise up to the present moment.

I freely acknowledge my obligation to colleagues in this and other institutions with which I am or have been connected, particularly to members of my staff at the Vanderbilt Clinic, whose cooperation has made possible a more comprehensive trial of drugs and methods than would have been otherwise possible.

## When and How to Treat General Instructions

*Beginning Treatment*—Without question the most gratifying rewards are to be had when treatment is begun within the first year of a syphilitic infection. The patient can quickly be rendered non-infectious—the most important consideration from the standpoint of public health, and since most patients with freshly acquired syphilis are young healthy adults, it is usually possible to carry out a regular plan of vigorous and thorough treatment, which provides the maximum chance for a cure with a minimum of risk. This early treatment is the surest preventive of the disabling forms of late syphilis, involving the cardiovascular and nervous systems. When once these vital structures have been damaged, treatment must be largely palliative, and limited to checking further advances of the parasite. In studies of early syphilis, our own records have shown that the highest percentage of satisfactory results (over 90 per cent) were secured among patients whose infection was diagnosed from the primary lesion and the presence of *Treponema pallidum*, and who began treatment immediately, before the blood Wassermann had become positive. Patients with primary sores and a positive Wassermann but with no secondary skin manifestations as yet, achieved the next highest percentage of satisfactory results, while patients whose treatment was not begun until a secondary eruption had appeared showed the least satisfactory response among the early cases.

*Continuous vs Intermittent Treatment*—Comparison of results achieved both in this clinic and elsewhere, under different systems of treatment, has amply demonstrated the superiority of continuous over intermittent treatment. The ideal is to keep the patient at all times under the influence of either arsphenamine or a heavy metal, and during the initial attack, in early syphilis, it is an additional advantage if both arsphenamine and the heavy metal courses can be given concurrently, thereafter they may alternate

or overlap When the patient is receiving only the heavy metal he should also be given potassium iodide by mouth No "rest periods" should be prescribed in early syphilis, if the patient must miss treatment, as for example, when traveling, he should take mixed treatment by mouth, or mercury rubs, or arrangements should be made with a local physician or clinic to continue the treatment which has already been initiated

*The Choice of Drugs*—Of all anti-syphilitic remedies so far tried, the arsphenamines are generally acknowledged by syphilologists to be the most active of those tolerated in therapeutic doses Of the arsphenamine series, the one which has maintained its superiority so far against all newcomers is old arsphenamine, or simply "arsphenamine," originally elaborated by Ehrlich as "salvarsan" or "606" (known also in France and England as "arsenobenzol" or "arsenobillon") In our comparative studies of old, silver, and neo-arsphenamine, old arsphenamine was shown to bring about the healing of lesions and the reduction of a positive Wassermann to negative in a shorter time and with a smaller amount of the drug than did either neo- or silver arsphenamine There were also fewer relapses and a higher percentage of satisfactory end results in our series under old arsphenamine than under either of the other arsphenamines tried, and despite much prejudice to the contrary, there were fewer serious reactions following its use

Silver arsphenamine (arsenic 19 to 20 per cent, silver 12 to 14 per cent) has proved useful as a substitute for old arsphenamine in certain cases where the latter is not well tolerated, or where there is a suspicion of drug-fastness Neo-arsphenamine and sulpharsphenamine we do not recommend, we have found them too toxic when given in doses high enough to be therapeutically active, and we consider fallacious the argument that the lower therapeutic value of these preparations can be offset by giving larger doses

Concerning bismuth and mercury, our fairly extensive comparative trials of different preparations of the two metals

have not disclosed any striking advantage of one group over the other, except the lower incidence of immediate ill effects under bismuth (but bismuth seemed to contribute to more delayed reactions than did mercury) Both are valuable adjuncts to arsphenamine, but neither should be expected to replace arsphenamine, except of necessity in cases where an arsphenamine is definitely contraindicated The preparations recommended in this outline are limited to those actually tried out in this clinic and found generally satisfactory

*Dosage*—The dosage recommended in the following treatment schedules is intended for the patient of average weight and generally sound physique, and should, of course, be modified when necessary, to suit the individual case It is often advocated that the dosage be based on body weight (0.05 Gm to 0.1 Gm of arsphenamine per 25 pounds) I do not believe that dosage should be determined by arbitrary standards of either weight or age A strong muscular active individual of 145 pounds with healthy excretory mechanism will be able to tolerate a higher dose than a 200-pound subject who is fat, flabby and inactive, and has sluggish excretion Likewise a healthy, well-developed child of fourteen may easily tolerate more of the drug than a poorly nourished, anemic adult.

It will be noted that the total dosage of the arsphenamine course is increased as the injections are more widely spaced This increase, however, is subject to rather narrow limitations, because of the danger of exceeding the patient's tolerance This needs to be taken into account particularly during the first few injections of a course For this reason I consider that 0.2 Gm or 0.25 Gm given twice a week is better than double the amount given once a week Even when obliged to give the treatment once a week throughout the course, the physician will find it safer to begin with the smaller doses and increase them during the latter half of the course

For modifications in dosage and other particulars of treatment for elderly pa-





## Outline of Treatment for Early Syphilis—The Preferred ("3-2") Plan

FIRST 6 ARSPHENAMINE INJECTIONS 3 TIMES A WEEK FOR THE FIRST COURSE  
FIRST 6 ARSPHENAMINE INJECTIONS 2 TIMES A WEEK FOR THE SECOND AND SUBSEQUENT COURSES

| OLD ARSPHENAMINE  |                      |          |                        | INTERVALS<br>BETWEEN<br>INJECTIONS | MERCURY  |    | BISMUTH                         |      | Dose |
|---|----------------------|----------|------------------------|------------------------------------|--|----|---------------------------------|------|------|
| Dose  | Dosage<br>for<br>Men |          | Dosage<br>for<br>Women |                                    | Dosage* for<br>Men and<br>Women  | or | Dosage† for<br>Men and<br>Women |      |      |
| FIRST COURSE  | 1st                  | 0 2 Gm.  | 0 15 Gm.               | Mon                                | 3/4 gr Hg  | or | 1 cc Bi                         | 1st  |      |
|   | 2nd                  | 0 2 Gm.  | 0 15 Gm.               | Wed                                |  |    |                                 |      |      |
|   | 3rd                  | 0 25 Gm. | 0 2 Gm.                | Fri                                | 3/4 gr Hg  | or | 1 cc Bi                         | 2nd  |      |
|   | 4th                  | 0 3 Gm.  | 0 2 Gm.                | Mon                                |  |    |                                 |      |      |
|   | 5th                  | 0 35 Gm. | 0 25 Gm.               | Wed                                | 3/4 gr Hg  | or | 1 1/2 cc Bi                     | 3rd  |      |
|   | 6th                  | 0 35 Gm. | 0 25 Gm.               | Fri                                |  |    |                                 |      |      |
|   | 7th                  | 0 4 Gm.  | 0 3 Gm.                | Mon                                | 3/4 gr Hg  | or | 1 1/2 cc Bi                     | 4th  |      |
|   | 8th                  | 0 4 Gm.  | 0 3 Gm.                | Fri                                | 1 gr Hg  | or | 2 cc Bi                         | 5th  |      |
|   | 9th                  | 0 4 Gm.  | 0 3 Gm.                | Wed                                | 1 gr Hg  | or | 2 cc Bi                         | 6th  |      |
|   | 10th                 | 0 4 Gm.  | 0 3 Gm.                | Tues                               | 1 gr Hg  | or | 2 cc Bi                         | 7th  |      |
|   | Total                | 3 25 Gm  | 2 40 Gm                |                                    | 1 1/2 gr Hg  | or | 2 cc Bi                         | 8th  |      |
| Four weeks interval between 1st and 2nd arspenamine courses |                      |          |                        | Weekly                             | 1 1/2 gr Hg  | or | 2 cc Bi                         | 9th  |      |
|   |                      |          |                        |                                    | 1 1/2 gr Hg  | or | 2 cc Bi                         | 10th |      |
| SECOND COURSE   | 1st                  | 0 2 Gm.  | 0 15 Gm.               | Mon                                | 1 1/2 gr Hg  | or | 2 cc Bi                         | 11th |      |
|   | 2nd                  | 0 25 Gm. | 0 2 Gm.                | Thurs                              |  |    |                                 |      |      |
|   | 3rd                  | 0 3 Gm.  | 0 2 Gm.                | Mon                                | 1 1/2 gr Hg  | or | 2 cc Bi                         | 12th |      |
|   | 4th                  | 0 35 Gm. | 0 2 Gm.                | Thurs                              |  |    |                                 |      |      |
|   | 5th                  | 0 4 Gm.  | 0 25 Gm.               | Mon                                | 1 1/2 gr Hg  | or | 2 cc Bi                         | 13th |      |
|   | 6th                  | 0 4 Gm.  | 0 25 Gm.               | Thurs                              |  |    |                                 |      |      |
|   | 7th                  | 0 4 Gm.  | 0 35 Gm.               |                                    | 1 1/2 gr Hg  | or | 2 cc Bi                         | 14th |      |
|   | 8th                  | 0 4 Gm.  | 0 35 Gm.               |                                    | 1 1/2 gr Hg  | or | 2 cc Bi                         | 15th |      |
|   | 9th                  | 0 4 Gm.  | 0 35 Gm.               |                                    |  |    |                                 |      |      |
|   | 10th                 | 0 4 Gm.  | 0 35 Gm.               | Weekly                             |  |    |                                 |      |      |
|   | Total                | 3 50 Gm  | 2 65 Gm                |                                    | Total Hg = 18 grains<br>Total Bi = 27 cc = 1 350 mg<br>elemental bismuth |    |                                 |      |      |

Six weeks' interval between 2nd and 3rd arspenamine courses

Third arspenamine course Repeat dosage and intervals of 2nd course.

Arspenamine should total 30 injections (3 courses of 10 injections each) in the first year

As soon as 2nd arspenamine course is completed resume mercury or bismuth and give 2 more courses of 15 injections each at weekly intervals dosage as above

Mercury or bismuth should total 45 injections (3 courses of 15 injections each) in the first year

\* Dosage based on mercury salicylate † Dosage based on preparations representing 50 mg of elemental bismuth in 1 cc

## Outline of Treatment for Early Syphilis—Alternate ("2-1") Plan

FIRST 6 ARSPHENAMINE INJECTIONS TWICE A WEEK FOR THE FIRST COURSE  
ALL ARSPHENAMINE INJECTIONS ONCE A WEEK FOR SECOND AND SUBSEQUENT COURSES

| OLD ARSPHENAMINE  |       |                      |                        | MERCURY                            |   | BISMUTH |                                 |      |
|---|-------|----------------------|------------------------|------------------------------------|---|---------|---------------------------------|------|
|   | Dose  | Dosage<br>for<br>Men | Dosage<br>for<br>Women | INTERVALS<br>BETWEEN<br>INJECTIONS | Dosage* for<br>Men and<br>Women                                   | or      | Dosage† for<br>Men and<br>Women | Dose |
| FIRST COURSE  | 1st   | 0 2 Gm               | 0 15 Gm                | Mon                                | 3/4 gr Hg   | or      | 1 cc Bi                         | 1st  |
|   | 2nd   | 0 25 Gm              | 0 2 Gm                 | Thurs                              | 3/4 gr Hg   | or      | 1 cc Bi                         | 2nd  |
|   | 3rd   | 0 3 Gm               | 0 2 Gm                 | Mon                                | 3/4 gr Hg   | or      | 1 1/2 cc Bi                     | 3rd  |
|   | 4th   | 0 35 Gm              | 0 2 Gm                 | Thurs                              | 3/4 gr Hg   | or      | 1 1/2 cc Bi                     | 4th  |
|   | 5th   | 0 4 Gm               | 0 25 Gm                | Mon                                | 1 gr Hg   | or      | 2 cc Bi                         | 5th  |
|   | 6th   | 0 4 Gm               | 0 25 Gm                | Thurs                              | 1 gr Hg   | or      | 2 cc Bi                         | 6th  |
|   | 7th   | 0 4 Gm.              | 0 35 Gm.               | Weekly                             | 1 gr Hg   | or      | 2 cc. Bi                        | 7th  |
|   | 8th   | 0 4 Gm               | 0 35 Gm.               |                                    | 1 1/2 gr Hg   | or      | 2 cc. Bi                        | 8th  |
|   | 9th   | 0 4 Gm               | 0 35 Gm                |                                    | 1 1/2 gr Hg   | or      | 2 cc. Bi                        | 9th  |
|   | 10th  | 0 4 Gm               | 0 35 Gm                |                                    | 1 1/2 gr Hg   | or      | 2 cc. Bi                        | 10th |
|   | Total | 3 50 Gm              | 2 65 Gm                |                                    | 1 1/2 gr Hg   | or      | 2 cc Bi                         | 11th |
| Four weeks' interval between 1st and 2nd arsphenamine courses |       |                      |                        |                                    | 1 1/2 gr Hg   | or      | 2 cc. Bi                        | 12th |
|   |       |                      |                        |                                    | 1 1/2 gr Hg   | or      | 2 cc Bi                         | 13th |
| SECOND COURSE   | 1st   | 0 2 Gm               | 0 2 Gm                 |                                    | 1 1/2 gr Hg   | or      | 2 cc Bi                         | 14th |
|   | 2nd   | 0 25 Gm              | 0 25 Gm                |                                    | 1 1/2 gr Hg   | or      | 2 cc Bi                         | 15th |
|   | 3rd   | 0 3 Gm               | 0 3 Gm                 |                                    |   |         |                                 |      |
|   | 4th   | 0 35 Gm              | 0 3 Gm                 |                                    |   |         |                                 |      |
|   | 5th   | 0 4 Gm               | 0 35 Gm                |                                    |   |         |                                 |      |
|   | 6th   | 0 4 Gm.              | 0 35 Gm                |                                    |   |         |                                 |      |
|   | 7th   | 0 5 Gm               | 0 4 Gm                 | Weekly                             |   |         |                                 |      |
|   | 8th   | 0 5 Gm.              | 0 4 Gm.                |                                    |   |         |                                 |      |
|   | 9th   | 0 5 Gm               | 0 4 Gm                 |                                    |   |         |                                 |      |
|   | 10th  | 0 5 Gm               | 0 4 Gm                 |                                    |   |         |                                 |      |
|   | Total | 3 90 Gm              | 3 35 Gm                |                                    | Total Hg-18 grains<br>Total Bi-27 cc (1 350 mg elemental bismuth) |         |                                 |      |

Four to six weeks' interval between 2nd and 3rd arspenamine courses

Third arspenamine course Repeat dosage and intervals of 2nd course

Arspenamine should total 30 injections (3 courses of 10 injections each) in the first year

As soon as second arspenamine course is completed, resume mercury or bismuth and give two more courses of 15 injections each, at weekly intervals, dosage as above

Mercury or bismuth should total 45 injections (3 courses of 15 injections each) in the first year

\* Dosage based on mercury salicylate.

† Dosage based on preparations containing 50 mg of elemental bismuth in 1 cc.

quent intervals during the first course, but difficult or impossible to keep him coming oftener than once a week during subsequent courses. The interval between the first and second courses of arsphenamine should be four weeks, between subsequent courses, six weeks.

The first course of fifteen injections of mercury or bismuth is given at four- or five-day intervals for the first six injections and weekly for the following injections of the course. Both intravenous and intramuscular injections may be given at the same visit for the convenience of the patient, except that during the first two weeks the patient receives four to six injections of arsphenamine and only three or four of mercury or bismuth. Between arsphenamine courses and while the patient is receiving only the heavy metal he is also given potassium iodide by mouth. A urinalysis should be done every one or two weeks and a complete blood count as well as a bile index should be taken once a month. For deviations from normal, see "Prevention of Reactions to Arsphenamine," and "Complications Due to Bismuth and Mercury."\* A test of the spinal fluid should be performed at the end of the first year, and preferably also at the end of the first course of treatment.

### Outline of Treatment for Syphilis in Pregnant Women

When a pregnant woman is found to have syphilis, treatment must be directed primarily toward securing a healthy infant. The possibility of delivering a healthy infant is in direct proportion to the promptness with which antiluetic treatment is instituted, and the thoroughness with which it is carried out. If infection has taken place at or around the time of conception, and treatment is begun within the first month and continued throughout the pregnancy, the chances of securing a healthy full term infant are practically as good as for the nonsyphilitic woman. If treatment is delayed until after the fifth month, the chances for a healthy infant are slight.

For the pregnant woman with early syphilis, the best plan is to follow through the routine treatment for early syphilis, making whatever modification may be necessary to give the last arsphenamine course—or as much of it as possible—just preceding delivery.

For the pregnant woman with tertiary or latent syphilis, follow the special plan outlined here, arranging, if possible, to give an arsphenamine course just preceding delivery. The pregnant syphilitic woman who is under such serious constitutional

### Outline of Treatment for Tertiary and Latent Syphilis

| OLD ARSPHENAMINE     |                        | INTERVALS<br>BETWEEN<br>INJECTIONS                                      | MERCURY                         |    | BISMUTH                         |  | Dose |
|----------------------|------------------------|---|---------------------------------|----|---------------------------------|--|------|
| Dosage<br>for<br>Men | Dosage<br>for<br>Women |   | Dosage* for<br>Men and<br>Women |    | Dosage† for<br>Men and<br>Women |  |      |
|                      |                        | All injections at weekly intervals                                      | 1/4 gr Hg                       | or | 1 cc. Bi                        |  | 1st  |
|                      |                        |   | 1/4 gr Hg                       | or | 1 cc. Bi                        |  | 2nd  |
|                      |                        |   | 1/4 gr Hg                       | or | 1 1/2 cc. Bi                    |  | 3rd  |
|                      |                        |   | 1/4 gr Hg                       | or | 1 1/2 cc. Bi                    |  | 4th  |
|                      |                        | Iodides 10-30 drops t.i.d. while patient is on mercury or bismuth alone | 1 gr Hg                         | or | 2 cc. Bi                        |  | 5th  |
|                      |                        |   | 1 gr Hg                         | or | 3 cc. Bi                        |  | 6th  |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 7th  |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 8th  |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 9th  |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 10th |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 11th |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 12th |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 13th |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 14th |
|                      |                        |   | 1 1/2 gr Hg                     | or | 2 cc. Bi                        |  | 15th |

As soon as arsphenamine course is completed, resume mercury or bismuth with iodides, and continue alternating courses of arsphenamine with mercury or bismuth for at least one year with dosage and intervals as indicated above.

All tertiary cases should have, at the first visit, in addition to complete physical and neurological examination, tests of both blood and spinal fluid. No arsphenamine should be given to persons over 60 years of age unless stage of disease requires it and general physical condition permits it.

\* Dosage based on mercury salicylate.

† Dosage based on preparations representing 50 mg. of elemental bismuth in 1 cc.

\* To be published in the next issue

disability—either from syphilis or some other cause—that she cannot tolerate antiluetic treatment adequate to insure a healthy infant, should have her pregnancy interrupted

For women who have been thoroughly and adequately treated for syphilis prior to the pregnancy in question, whose Wassermann has remained consistently negative, and who for practical purposes are considered cured, I can see nothing to be gained by treatment throughout pregnancy. The Wassermann should be taken frequently (once a month is advisable) and at any appearance of a positive serology, or if there is for any other reason a doubt about the patient's "cure," it is better to play safe by treating as in known cases of syphilis. The husband, if infected, should, of course, have received thorough treatment, and be clinically and serologically negative.

*Resumption of Treatment after Delivery*—Treatment as outlined may be resumed within two or three weeks after delivery. It is of special advantage to the infant for nursing mothers to receive treatment, as arsenic has been shown to appear in the milk of mothers receiving arsphenamine treatment. Treatment should be continued until at least the minimum required amount has been given, or for at least six months after the blood Wassermann has become negative.

For early syphilis in pregnant women use the same treatment as for nonpregnant women. For tertiary and latent syphilis treat as shown at bottom of page.

*Special Precautions*—Before each injection, take blood pressure and test

urine for albumen. If blood pressure is above 150, or if urine shows heavy trace of albumen, withhold injection, have complete urinalysis and blood chemistry done, and direct patient to obstetrician. A gradually increasing blood pressure, even though still below 150, should be regarded with suspicion, and the patient should be closely questioned for signs of excessive nervousness and reactions of all kinds, in order to prevent eclampsia.

*Treatment for Children of Syphilitic Mothers*—See "Treatment of Congenital Syphilis."

### Outline of Treatment for Congenital Syphilis

Children of syphilitic mothers are not treated unless the child has two or more positive Wassermanns, or a Wassermann supported by one or more precipitation tests, or unless the child has clinical manifestations of syphilis. Tests are made from the cord blood of the infant at birth, from the infant's blood at six weeks, three months, six months, and annually up to three or four years. Ideally, it would be better to repeat the test annually until the age of puberty. Late manifestations will nearly always have made their appearance by this time. If a positive serology is found at any time, and is confirmed by a second test, treatment is begun immediately.

*Choice of Drugs and Methods*—Syphilis in infants and children is treated in the main like syphilis in adults, except for the modifications in dosage and technic explained hereinafter.

Arsphenamine is the drug of choice, to

### Outline of Treatment for Tertiary and Latent Syphilis in Pregnant Women

| OLD ARSPHENAMINE   |          | INTERVALS BETWEEN INJECTIONS | MERCURY Dosage                | BISMUTH Dosage |          |
|--|----------|------------------------------|-------------------------------|----------------|----------|
| Dose   | Dosage   |                              |                               |                |          |
| 1st  | 0 15 Gm. | Weekly                       |                               |                |          |
| 2nd  | 0 15 Gm. |                              |                               |                |          |
| 3rd  | 0 2 Gm.  |                              |                               |                |          |
| 4th  | 0 2 Gm.  |                              |                               |                |          |
| 5th  | 0 25 Gm. |                              |                               |                |          |
| 6th  | 0 25 Gm. |                              |                               |                |          |
| 7th  | 0 3 Gm.  |                              |                               |                |          |
| 8th  | 0 3 Gm.  |                              |                               |                |          |
| Four weeks interval between 1st and 2nd arsphenamine courses   |          | Twice a week                 | { 1/2 gr Hg or 1 cc Bi        |                | Dose 1st |
|  |          | Twice a week                 | { 1/2 gr Hg or 1 cc Bi        |                | 2nd      |
|  |          | Weekly                       | { 1 to 1 1/2 gr Hg or 2 cc Bi |                | 3rd      |
|  |          | Weekly                       | { 1 to 1 1/2 gr Hg or 2 cc Bi |                | 4th      |
| Begin second arsphenamine course here and continue alternating courses until delivery, dosage and intervals as indicated above. If possible, arrange to give last arsphenamine course just before delivery |          | Twice a week                 | { 1/2 gr Hg or 1 cc Bi        |                | 5th      |
|  |          | Twice a week                 | { 1/2 gr Hg or 1 cc Bi        |                | 6th      |
|  |          | Weekly                       | { 1 to 1 1/2 gr Hg or 2 cc Bi |                |          |
|  |          | Weekly                       | { 1 to 1 1/2 gr Hg or 2 cc Bi |                |          |

## DOSAGE SCHEDULE FOR INFANTS AND CHILDREN

|                  | Dose | Birth to 6 Months  | 6 Months to 1 Year   | 1 Year to 6 Years  | 6 to 14 Years |
|------------------|------|--|--|--|---------------|
| OLD ARSPHENAMINE | 1st  | 0.075 Gm.  | 0.1 Gm.  | 0.1 Gm.  | 0.15 Gm.      |
|                  | 2nd  | 0.075 Gm.  | 0.1 Gm.  | 0.1 Gm.  | 0.15 Gm.      |
|                  | 3rd  | 0.075 Gm.  | 0.1 Gm.  | 0.1 Gm.  | 0.15 Gm.      |
|                  | 4th  | 0.1 Gm.  | 0.15 Gm.   | 0.15 Gm.   | 0.2 Gm.       |
|                  | 5th  | 0.1 Gm.  | 0.15 Gm.   | 0.15 Gm.   | 0.2 Gm.       |
|                  | 6th  | 0.1 Gm.  | 0.15 Gm.   | 0.15 Gm.   | 0.2 Gm.       |
|                  | 7th  | 0.1 Gm.  | 0.15 Gm.   | 0.2 Gm.  | 0.25 Gm.      |
|                  | 8th  | 0.1 Gm.  | 0.15 Gm.   | 0.2 Gm.  | 0.25 Gm.      |
|                  | 9th  | 0.1 Gm.  | 0.15 Gm.   | 0.2 Gm.  | 0.25 Gm.      |
|                  | 10th | 0.1 Gm.  | 0.15 Gm.   | 0.2 Gm.  | 0.25 Gm.      |
| MERCURY          |      | Begin with $\frac{1}{16}$ grain and increase gradually to $\frac{1}{8}$ grain* | Begin with $\frac{1}{16}$ grain and increase gradually to $\frac{1}{8}$ grain* | Begin with $\frac{1}{16}$ grain and increase gradually to 1 grain* |               |
| BISMUTH          |      | Begin with $\frac{1}{4}$ cc. and increase gradually to 1 cc.†                  | Begin with $\frac{1}{2}$ cc. and increase gradually to 1 cc.†                  | Begin with 1 cc. and increase gradually to $1\frac{1}{2}$ cc.†     |               |

\* Dosage based on mercury salicylate.

† Dosage based on preparations representing 50 mg. of elemental bismuth in 1 cc.

be supplemented by the heavy metals as in the treatment of adults. Where arm veins are difficult to enter, one may use ankle veins or jugular or scalp veins. In the latter case, place rubber band or tourniquet around base of skull to make veins stand out. If the operator is not sufficiently skilled in giving arsphenamine intravenously to infants, it is permissible to give it intramuscularly in concentrations of 1 to 2 cc. per decigram, following the usual dosage for infants, and observing the technic outlined for the administration of the heavy metals. It should be stressed that freedom from reactions to intramuscular injections of arsphenamine will be in direct proportion to the thoroughness with which the parts are massaged after the injection.

Bismarsen (bismuth arsphenamine sulphate, bismuth sulpharsphenamine). If an infant proves intolerant to arsphenamine one may give bismarsen intramuscularly (never intravenously). This preparation probably stands somewhere between arsphenamine and the heavy metals in therapeutic efficacy. We have never found it necessary to use this or other arsphenamine substitutes for infants in this clinic.

Neoarsphenamine we have found to

have low therapeutic efficacy coupled with high toxicity, and when given intramuscularly causes just as much local discomfort as arsphenamine.

Sulpharsphenamine (except in the form of bismarsen) we do not advocate, believing it to be less effective than the other arsphenamines and far more toxic.

Bismuth and mercury should be given as usual to supplement arsphenamine courses, with modifications of dosage according to the following schedules. In poorly developed and undernourished infants or those in a lowered state of vitality at birth, it is advisable to give injections of a heavy metal only, or even mercury injections alone, until the child becomes stronger.

*Fever Therapy*—Since in congenital syphilis, especially in the late forms, it is difficult and frequently impossible to obtain a negative Wassermann, it may be advisable to give fever treatment, either malaria, fever box, or typhoid vaccine, in cases which have failed to respond to the usual treatment continued over two years or more, and also in cases of interstitial keratitis after the acute stage has passed.

[To be continued in the next issue.]

A novel plea was made by a California chiropractor arrested for speeding. He urged that instead of being fined for going one mile at 60 his miles should be averaged and the result

would be found well within the law. When this was refused, he offered to pay his fine in treatments for the judge. This was also firmly declined.

# Society Activities

## Changes in Group Plan Rates and Coverage for Malpractice Insurance

Important and valuable modifications in both the rates and coverage of the State Society's Group Plan of malpractice defense and indemnity have been reported by the Insurance Committee and accepted by the Council at its November meeting. These changes were foreshadowed three years ago when the master policy was transferred to the Yorkshire Indemnity Company of New York. At that time the carrier had demanded an increase in rates which the Society was unwilling to approve, believing that it was not justified by the experience under the terms of the carrying agreement existing between the Society and the company. In addition to avoiding what the Society believed to be an unwarranted rate increase, it was desired to redraft the coverage so as to provide members with protection on account of the acts of temporary substitutes which prior thereto had never been available. Also, it was felt necessary to revise the cost accounting system so as to furnish a more accurate and satisfactory method of determining cost and computing rates in the future.

The transfer was approved by the House of Delegates and put into effect January 1, 1936. Now after three years of operation under the new arrangement, the Society is able to announce a reduction on all rates and a broader form of coverage. Since, during these three years, there has been no diminution in the number or cost of suits and claims chargeable to the Group Plan, the wisdom of the transfer is fully demonstrated.

The changes will apply to all new certificates and to renewals dated on and after January 1, 1939. They represent concrete benefits for all members and are as follows:

1 The base rate has been reduced to \$28.00.

- 2 A sliding scale of reduction has been made in rates for all limits of insurance in excess of the minimum.
- 3 The surcharge for x-ray therapy has been reduced from \$40.00 to \$30.00, making a minimum rate to include that specialty \$58.00 instead of \$70.00 as heretofore.
- 4 Members desiring protection on account of x-ray therapy ONLY may now have their certificates so endorsed and issued at the surcharge rate only.
- 5 Protection on account of temporary substitutes, permanent assistants, and licensed or specially qualified technicians has been included in the base policy without additional charge, provided that medical substitutes and assistants are members of the State Medical Society and individually insured under its master policy.
- 6 Limit No. 1 in the amount of insurance has been changed to apply to any one suit or claim regardless of the number growing out of any one cause or action. This is a return to the former provision of the policy contract.
- 7 The exclusions on account of unlawful acts have been combined in one paragraph and the wording changed so as to indicate clearly that they apply only when it has been established that an unlawful act has been committed and not to a mere allegation of such an act. This has always been the intent and it has always been so construed, therefore, this change is only a clarification of phraseology.

8. The exclusion on account of the use of x ray therapy has been extended to include the detailed prescription of x ray therapy dosage for some other person to carry out.
9. Heretofore, the policy, as it applies to any one Assured, has been noncancellable except for non payment of premium or failure of an Assured to maintain in good standing his membership in the State Society. In addition, there has been added a provision that a certificate may be cancelled at any time at the request of the Assured upon the customary short rate basis.

The importance of these changes is far reaching and promises well for the future. The rate reductions alone will save nearly \$40,000 a year in the bill which members pay for malpractice indemnity and defense. It may be more important, however, to stress the point that members will now be able to increase the amount of their protection under a broader form of coverage without increase in cost. This view will not escape the consideration of prudent members who have watched with apprehension the growing size of suits and the tendency of all juries to return higher verdicts.

It is sometimes asked why the Society has a Group Plan of indemnity and defense and why members are not encouraged to buy their protection as individuals from any company willing to insure them. The older members know the answer to that, of course. But next May the Group Plan will be eighteen years old and during those years a whole generation of men and women have grown up and come into the practice of medicine, having no knowledge whatever of the chaotic conditions immediately following the war which finally impelled the State Society to take command of the situation in this state. So, for the benefit of the younger members coming into the Society, this question should be answered clearly at least once every year.

Briefly stated, the system of individual buying of malpractice protection from freely competing insurance companies and having to deal individually with those companies, proved a complete failure in New York State after a long and untrammelled test. It failed to provide doctors with competent and satisfactory legal defense. It failed to maintain the cost of indemnity and defense within the reach of the average member. It failed to provide a united and effective check to the constantly increasing threat of malpractice claims. And it denied organized medicine an opportunity to exert its influence upon the trend of events or to intervene with the companies when necessary to protect the interest of its members.

Medical men had learned from bitter experience that, in a malpractice action, expert legal defense for the protection of their professional standing and reputation in their communities is usually far more important than the amount of money at stake. While the insurance companies had the facilities for supplying indemnity none of them had attorneys with sufficient medicolegal experience or possessing enough knowledge of medicine or its practice to furnish expert and competent defense. On the other hand, the State Society has developed the most expert and successful legal defense to be found any place in the country, but had no facilities for supplying indemnity. Obviously some plan for bringing these two services together in one undertaking was the logical solution.

The Society took the initiative and worked out all of the details of such a combination to be operated under the supervision and control of the Society. It became known as the Society's Group Plan of Malpractice Indemnity and Defense and was put into operation on May 10, 1921. It was a unique, astute, and timely action which immediately cured the intolerable conditions which existed at that time and has prevented a return of them.

During the years which have intervened since its organization, it has supplied,

through the legal counsel of the Society the most competent and able legal defense available in the country. It has prevented high rates, and saved members a total of over a million and a half in premiums for minimum policies alone. It has provided a united front to combat unjust malpractice suits or claims and is effectually educating the suing public and its attorneys to the understanding that they must have sound and honest claims before they can hope to translate them into money damages through the courts. In fact, without this united front no company would or could afford to insure the members of the State Society. Last but not least, it has helped to support and has made possible the continuance of

free malpractice defense of uninsured members. Certainly no activity of the Society is more worthy of the active support of every member.

In publishing to the Society the new rates and coverage which will be available beginning January 1, a word of appreciation should be said on behalf of the Yorkshire Indemnity officials whose co-operation and assistance have made the changes possible.

#### Council Committee on Malpractice Defense and Insurance

Clarence G. Bandler, M D, Chairman

Arthur S. Driscoll, M D

George W. Kosmak, M D

#### THE ANSWER TO THE DOCTOR'S PRAYER

Unfortunately, too many addresses at medical meetings are of little practical value to the physician in his daily practice, thinks the *Ohio State Medical Journal*.

A physician who takes time off from his practice or gives up an evening at home to attend a medical meeting does not want to hear an ultra-scientific paper, hurriedly read. He wants a well-prepared practical talk, delivered informally and interestingly and comprised of understandable terms. In other words he wants to hear something which will stay with him and give him suggestions he can use in his daily practice. He wants authoritative, up-to-date information, based on the speaker's experience, which will make his diagnosis more accurate and his treatment more effective. Of course, there is a place for the highly technical treatise on recent experiments and unusual cases, but that place is in the literature where it can be read and digested during leisure moments.

The speaker who "hits 'em between the eyes" with something practical, stripped of a top-coat of big and unnecessary words and phrases, is the chap who answers the average doctor's prayer.

Patient "I have an awful rumbling in my stomach, Doctor."

Doctor "Hmml! Probably that truck you ate last night."

#### PENALTIES OF FEMINIST MUTINY

In Australia thirty-one per cent of all first births are the result of extramarital conception. Also, during the last twenty years, says a report in the *Journal of the A M A*, the percentage of deaths from illegal operations has been multiplied by four, it now represents twenty per cent of total maternal deaths. These facts point to a loosening of moral standards, with consequent increase in intemperate contraception and criminal abortion for the failure of contraception. Intemperate contraception and criminal abortion have destroyed and are destroying the health of thousands of women. In the opinion of Dr. McLelland man is the defaulter. He considers that the feminist movement was a frank mutiny conditioned by man's failure in the primary duty of sustenance and protection of woman. The increasing extent to which women are employed in industry and commerce, the increasingly high wages paid to women and their insistent demands for independence, and the consequent unwillingness of young women in employment to enter matrimony are important factors in the increase of abortion. Added to these is the changed attitude of men toward women.

A doctor received this note

"Please call and see my husband. It's his head. He's had it off and on all yesterday, and today he's sitting with it in his hands between his knees."

# The Woman's Auxiliary

To the Medical Society of the State of New York

QUESTIONS and answers appear to be the order of the day. Individuals, the press, the radio, and the mail, each contributes its share.

Why are you an Auxiliary member?

How does the Auxiliary function?

What are the purposes of the Auxiliary?

What are the Auxiliary's policies, plans, and activities?

What is necessary for the Auxiliary's progress and growth?

These are but a few of the questions to which we endeavor to reply.

While ever vigilant of the trend of affairs, traditions and ancient philosophies still guide and inspire us. "Know thyself," a slogan of the early Greeks, continues to be as applicable now as then. It might well be adopted as our own, so completely does it serve. More than the study of self, such introspection would disclose our power and our abilities.

The appreciation of which appears as the initial step toward the achievement of the Auxiliary's aims and purposes. Comprehending these qualities, confusion in the minds of many would disappear, along with their apparent lethargy. There being no further inquiries about the functions of the Auxiliary, every doctor's wife would welcome the opportunity of taking part in a program of health education. Extending the aims of the medical profession to all other organizations interested in health education is a big endeavor and necessarily must be carried on only under advisement.

The activities of the Auxiliary encompass every phase of woman's organization work and are therefore of interest to all. Health education, legislation, public relations, philanthropic, and social, each has a part and in turn holds the attention.

While we are the natural allies of the medical profession, to be worthy representatives self-education must play a major rôle.

As we are active in our various community organizations, we can serve best by guiding and directing the health programs of these groups. It is here that the Speakers Bureau of the Medical Society assists. Public Health Institutes and health programs given by the Auxiliary have proved of interest to the laymen. Active participation in many health matters such as maternal welfare, cancer control, and the fight to control tuberculosis have kept the Auxiliary occupied.

The promotion of *Hygeia* is urged, since it is an official and authentic health publication, readily understood by all. It is apparent that it is the most valuable weapon with which to combat cultist propaganda. These are mentioned as but a few of the Auxiliary's health interests.

Studying the legislative program of the Medical Society has kept the Auxiliary abreast of all legislation affecting the public health and medical profession. While always alert, no action is ever taken, unless it is requested. Legislation is a common denomination of all interests and occupies a prominent part of our concern.

Each community supplies its own philanthropic needs and problems, along with those of larger appeal. With the seriousness of our objectives, the social side is never neglected. The gains of friendliness and good fellowship are most in valuable aids.

The universal plea for understanding interest and co-operation is also the Auxiliary's. These are vital factors, necessary to progress and growth. A large membership, for its numerical



value alone, holds no interest, save as a necessary medium to successful achievement

There is no wish to break with tradition, but rather do we strive to uphold it. It is evident that the economics of yesterday is not today's, nor will it hold for tomorrow. What then is more natural than the desire to help preserve our hearth and economic future?

It is to the County Auxiliary to whom we must look for the visual means whereby the steady growth of the whole may be maintained

As we carry on with our unselfish endeavors, remember always, we are but an Auxiliary

### County News

**Albany** A meeting of the Woman's Auxiliary was held on Tuesday, Nov 30, in the auditorium of the Albany Hospital. The meeting was well attended and the members enjoyed listening to Mrs. Lou Vold, Field Representative of the American Red Cross of Washington, D. C., who spoke on "The Red Cross in Action."

**Onondaga** Mrs. Winthrop Pennock was elected president and Mrs. Horace

Whitley first vice-president at the annual meeting of the Woman's Auxiliary to the Medical Society of the County of Onondaga held on Tuesday, Dec 6, in the home of Mrs. Frances Irving, Wendell Terrace, Syracuse. Mrs. Catherine Scott Sykes gave a very interesting program of play reviews. A social hour followed the executive session and program.

**Queens** Mrs. William Lavelle was elected president and Mrs. Raymond Murphy president-elect of the Woman's Auxiliary to the Medical Society of the County of Queens at the annual meeting held on Nov 30, in the Medical Society Building.

Mrs. Kleefield entertained her Executive Board and the new officers at a tea on Dec 6.

Mrs. John Mahoney is chairman of the installation party to be held on Wednesday, Dec 28, 1938, in the Medical Society Building.

**Schenectady** The Woman's Auxiliary to the Medical Society of the County of Schenectady held a buffet luncheon and bridge at the Mohawk Golf Club on Tuesday, Nov 13.

### GETTING DOWN TO BRASS TACKS

The sharp points of some of the brass tacks of socialized medicine are well brought out by Dr. E. Wayne Stratford, of Portland, Oregon, in a letter to *Medical Economics*.

Why, he asks, should medically-trained politicians seek to destroy confidence in private doctors when the indigent sick are sick because of bad diet, dirt, dark houses, and defunct incomes?

Why create medical surveys for investigators who do not know and probably can never know the medical problems to be surveyed?

Why destroy pigs when children of the indigent go without meat because meat is too expensive?

Why rave about incompetent doctors when the children "they are neglectfully treating" are mostly in need of potent cod-liver oil, safe milk, edible eggs, clean meat, and vitamin C?

I see the families of the poor. The children are scorbutic because of lack of oranges, are rachitic because 19¢-a-pint cod-liver oil does not cure rickets, have terrible dental caries because of lack of minerals and vitamins, have colds, flu, sinusities, and scabies because of damp, dark, dirty, stinking homes with inadequate clothing, fuel, food, and baths.

Why should public officials undermine these people's confidence in me when I am the one who will sit down and listen to their plight, get them calcium salts, cod-liver oil, vitamin C, and try to ward off preventable diseases which strike the indigent and help to keep them indigent?

Why publicize the ideas of medical politicians who conceal (or are ignorant of) the true status of medical care of the underprivileged and who throw sand in the newsprint to blind the public in regard to this question?

# Medical News

## Bronx County

The Bronx County Medical Society will celebrate its twenty fifth anniversary with a dinner, dance, and entertainment at the Waldorf Astoria Hotel on Saturday, Jan 7. The guest of honor will be Dr Nathan B Van Etten, first President of the Bronx County Medical Society, Past President of the State Society, and Past Speaker of the House of Delegates of the A. M. A.

The North Bronx Medical Society met on Dec. 1 at Elsmere Hall and listened to papers by Drs Aaron N Gorelik, Henry Wincor, Solomon Ginsburg, and William Bierman.

Dr Sidney P Schwartz will lecture at the Montefiore Hospital Auditorium on Jan 12 and 19 at 3 30 P M on Electrocardiography.

The lectures are free to physicians and medical students.

## Erie County

Dr L Franklin Anderson, chairman of the economics committee of the Medical Society of the County of Erie, declared in a recent report that the 756 active practitioners enrolled in the county society have given to the needy in the past year, without any compensation, medical services representing approximately \$2,532,466.

He listed 33,900 free operations, 3,010 obstetrical deliveries, and approximately 510,000 home and office calls.

It is expected that Buffalo physicians and dentists will receive compensation for treating patients on relief after Jan 1.

The members of the Erie County Society have voted to raise the dues from \$8 to \$10.

Dr Howard B Sprague, of Boston, addressed the Buffalo Academy of Medicine on Dec. 14 on "What Price Coronary Thrombosis?" Dr David E Robertson, of Toronto, addressed the Academy on Dec. 7 on "The Treatment of Infantile Paralysis."

## Fulton County

Dr D Ewen Cameron, psychiatrist in chief of the Albany hospital, was guest speaker at the meeting of the Medical Society of Fulton County held on Nov 17 at Hotel Johnstown. "The Insulin and Metrazol Treatment of Dementia Praecox" was the subject of his address. The attendance was the largest of the year.

## Kings County

At a meeting of the Ocean Medical Society of Brooklyn on Nov 21, Dr Philip I Nash, president elect of the Kings County Medical Society, who spoke on "The Future of American Medicine," told the 300 surgeons and physicians present that while he does not favor socialization of medicine he recognizes the trends leading to it.

"Investigation leads me to a firm belief that the Government would have to intervene to enable a large mass of indigent people to avail themselves of adequate medical care," he said.

"However, I do oppose any scheme which does not allow patients a free choice of physicians, as this might lead to an opportunity for political meddling."

Dr Frederic E Elliott, former chairman of the economics committee of the New York State Medical Society and proponent of the Elliott plan of co-operative medical care for low-income patients, explained the operation of his plan.

A symposium on pneumonia control was the feature of the meeting of the Medical Society of the County of Kings on Nov 15. The speakers were Drs Wheelan D Sutliff, Tasker Howard, Russell L Cecil, and Richard H Bennett.

Dr J Hamilton Crawford will speak on Jan 11 on "Cardiac Arrhythmias," and on Jan 18 on "Myocardial and Coronary Disease," in Hoagland Laboratory, Long Island College of Medicine, at 4 30 P M. Physicians and medical students are invited.

## Livingston County

Dr Edward Windsor Southall, eighty-eight-year-old physician of Geneseo, announces that he is retiring after sixty years of service. Dr Southall believes that walking is the most stimulating and beneficial of exercises and has continued to use that method of travel in visiting his patients.

## Madison County

The Madison County Medical Society presented an excellent course of lectures in November and December under the auspices of the Committee on Medical Education of the State Society. The topics and speakers: "Scarlet Fever," by Dr A C Silverman, Syracuse, "Anemia," by Dr K R McAlpin, New York City, "Asthma," by Dr Albert Vander Veer, New York City, "Nephritis," by Dr J D Lyttle, New York City, and "Diabetes Mellitus," by Dr David D Moore, New York City.

## Monroe County

United efforts by physicians and pharmacists to end "useless and frequently harmful consumption of drugs" by glib Americans who spend \$360,000,000 a year on self-medication were urged by Dean A B Lemon of the School of Pharmacy, University of Buffalo, on Nov 15, at a joint meeting of the Monroe County Medical Society and the Rochester Pharmaceutical Association in the Rochester Academy of Medicine. Dean Lemon declared that 20 per cent of the nation's adult population attempts self-diagnosis of illness and practices home treatment with patent medicines.

He claimed that organized pharmacists were squarely behind any movement to stamp out the practice, and advised a continuous program of education and restrictive legislation "to save the public from their own folly."

Monroe County doctors and pharmacists also viewed a sound motion picture at the Nov 15 meeting, illustrating the work of the Army Medical Service in war time, and the Maternal Mortality Analy-

sis Committee discussed "A Review of Maternal Death Case Records."

Medical, civic, industrial, and religious leaders in Monroe County are contemplating the advisability of setting up a "Non-profit Medical Expense Indemnity Insurance Association," a plan for wage-earners, as stated by the County Medical Society, "wherein an individual, by making payments of stated premiums, makes available to himself a definite sum of money for the payment of his physician's charges for professional service."

Dr Alva P Maine, 92, of Webster, whose birthdays have been celebrated by a town clambake for the past nineteen years, died on Nov 7.

## Nassau County

More than three hundred physicians, dentists, and teachers listened to an address by Dr Hiram A Jones, of the State Department of Education, at Hempstead on Nov 21, on the subject of school health. Dr Louis H Bauer, President of the Medical Society of Nassau County and of the Second District Medical Society, also spoke in the discussion.

Surgery was the topic at the meeting of the Medical Society of Nassau County at Mineola on Nov 29. The speakers: Dr A C Martin, Dr O C Hudson, Dr Richard Derby, and Dr A S Warinner.

## New York County

At the 133rd Annual Meeting of the Medical Society of the County of New York on Nov 28, Dr Walter P Anderton was chosen president-elect. His term will start Jan 1, 1940. He will succeed Dr Howard Fox, whose term begins Jan 1, 1939.

Alfred M Hellman was named first vice-president, Maximilian A Ramirez second vice-president, B Wallace Hamilton secretary, Joseph A Devlin assistant secretary, Kirby Dwight treasurer, Edward C Brenner assistant treasurer, and Albert H Aldridge, George Baehr, and J Stanley Kenney censors.

Samuel B Burk was elected chairman of the committee on legislation, Harold B Davidson, chairman of the committee

on civic policy, Roy B Henline, chairman of the committee on economics, and Francis N Kimball, chairman of the committee on membership

Dr Bandler was named a trustee and the following were named delegates to the Medical Society of the State of New York: Samuel B Burk, Alfred A Cinelli, B Wallace Hamilton, Alfred M Hellman, David J Kahski, J Stanley Kenney, Francis N Kimball, Samuel J Kopetzky, James Alexander Miller, Peter M Murray, and Edward K. Barsky

Dr Malcolm Goodridge, Professor of Clinical Medicine at the Cornell University Medical School, was elected President of the New York Academy of Medicine for two years beginning on Jan 1, at the annual election of officers at the Academy's headquarters on Dec 1

Dr Rufus I Cole, former director of the hospital of the Rockefeller Institute and past president of the American Association of Physicians, was elected vice-president of the academy for three years

Dr Bernard Sachs, past president of the academy, was elected treasurer for three years. Dr James Alexander Miller, retiring president, and Dr Charles F Tenney were elected trustees for five years. Dr Carl G Burdick was elected trustee to fill the unexpired term of the late Dr Frederick Tilney, running through December, 1940

Dr S. S. Bauch was elected president of the New York Physicians Art Club at the annual dinner of the organization on Nov 28 at the National Arts Club. Other officers elected were Dr Alfred Braun, vice president, Dr J. R. Gudger, secretary, and Dr I. Rosen, treasurer. Dr Percy Fridenberg was reappointed publicity secretary

Dr Walter C. Alvarez of the University of Minnesota School of Medicine, will speak at the New York Academy of Medicine on Jan 12, at 8.15 o'clock, on "Emergence of Modern Medicine from Ancient Folkways," one of the series of "Lectures to the Lasty"

Drs Rudolf Schindler and Burnill B Crohn will speak at the New York Academy of Medicine on Jan. 5 on the diag-

nosis and medical treatment of peptic ulcer

Dr Arthur M. Master will give two addresses on Electrocardiography in Room 20, New York Academy of Medicine, at 3 30 o'clock on Jan 10 and 24

### Onondaga County

The Maternal Welfare Committee of the Onondaga County Medical Society held a one-day Institute on Obstetrics on Dec 8, with a distinguished list of speakers. The committee paints a somber picture of the county situation, with the maternal death rate over 50 per cent above the figure for the state, and urges the physicians to "honestly assume our real responsibility and lead Onondaga County out of the dark situation in which we find ourselves"

### Putnam County

In place of the regular monthly meeting, the Putnam County Medical Society held a fellowship dinner at the Carmel Country Club on Nov 9, at which time the physicians were hosts to the twenty practicing lawyers of the County. Dr Ralph M. Hall of Cold Spring, President of the Society, presided and the speakers were Hon. Lee Parsons Davis, Justice of Supreme Court, 9th District, Dr Joseph S. Lawrence, Executive Officer, and Dr Theodore West, President of First District Branch

At the October meeting, at Carmel Country Club, the speaker was Dr Walter Timme and the subject, "Recent Advances in Endocrinology"—*Reported by John T. Jenkin, M.D., Sec*

### Queens County

Dr Henry Eichacker of Ridgewood, president of the Queens County Medical Society, won a sweeping—though possibly temporary—victory in his long drawn-out battle with the New York Telephone Company, on Nov 17

The Appellate Division of the Supreme Court, ruling on an appeal made by the physician, unanimously reversed the verdict by which Dr. Eichacker last year lost his suit to recover \$209 from the company

The amount represented, he contended, the difference between office and home rates charged by the company. His counsel argued that the company had no right to charge the higher office rates for use of a residence phone.

Dr Eichacker's office is in his home.

The telephone company, faced with the prospect of a barrage of similar suits should the physician's case be upheld, battled the issue vigorously until decision was rendered in its favor in June, 1937.

Justice Harold J. Crawford in Ridge-wood Municipal Court held that the company had a right to charge business rates for a telephone used for such purposes, although installed in a residence. The Appellate reversal, in part, reads:

"Plaintiff made out a prima facie case. The undisputed testimony shows that the plaintiff conducted his medical business in his residence. Under such circumstances he was entitled to the benefit of the tariff filed with the Public Service Commission."

The telephone company must now pay the \$209 judgment plus \$30 costs, or take the case to the Court of Appeals.

The Kew-Forest Medical Association, composed of surgeons and physicians in Forest Hills, Kew Gardens, and Richmond Hill, held an organization meeting on Nov. 21 in the Forest Hills Inn.

Plans for a new hospital in Forest Hills, which the association is working for, were discussed.

### Rensselaer County

Dr. John F. Erdmann of New York City, was guest speaker at the annual banquet of the Rensselaer County Medical Society, at the Hendrick Hudson Hotel, in Troy, on Dec. 14.

### Richmond County

Dr. A. C. De Graff will give two addresses on Electrocardiography at the Richmond Borough Health Center at St. George, S. I., at 4:30 o'clock on Jan. 9 and 16. Physicians and medical students are invited.

### Rockland County

An interesting course of lectures on internal medicine was arranged by the Rockland County Medical Society in November and December, at the Summit Park Sanitarium at Pomona. The speakers were from the Long Island College of Medicine.

### Suffolk County

At the one hundred and thirty-third annual meeting of the Suffolk County Medical Society on Oct. 26 at the Crescent Athletic Club, Huntington, Dr. Willets W. Gardner of Patchogue was elected president. Doctor Gardner will take office at the January meeting, succeeding Dr. Earl McCoy of Central Islip.

Other officers elected were Dr. J. L. Sengstack of Huntington, first vice-president, Dr. George P. Bergman of Mattituck, second vice-president, Dr. Edwin P. Kolb of Holtsville, secretary, and Dr. Grover A. Silliman of Sayville, treasurer. The censors elected were Dr. Paul Nugent of East Hampton, chairman, Dr. Warren Eller of Sayville, Dr. Frank McGilvery of Smithtown, Dr. Leon Barber of Patchogue, and Dr. Victor K. Young of Riverhead.

### Westchester County

The need of a national program for medical care under the leadership of the A. M. A. was stressed by several speakers at the annual meeting of the Westchester County Medical Society at White Plains on Nov. 15. Dr. Ralph T. B. Todd, of Tarrytown, was elected president, Dr. Henry J. Vier, White Plains, first vice-president, Dr. Reginald A. Higgins, Port Chester, second vice-president, Dr. Robert B. Archibald, Bedford Hills, secretary, and Dr. James G. Morrissey, Yonkers, treasurer.

Drs. Restin, Romeo Roberto, Yonkers, and Robert W. Helm, Ossining, were elected to the Board of Censors, and Drs. Arthur F. Heyl and George C. Adie, New Rochelle, and Edward C. Wood, White Plains, delegates to the State Society.

# Hospital News

## An Obstetrical "Flying Squad"

THE emergency service, or so-called "flying squad," is now "an essential part of a modern maternity service," said E. Farquhar Murray, M.D., F.R.C.S., Professor of Midwifery and Gynecology, University of Durham College of Medicine, in a paper read in the Section of Obstetrics and Gynecology at the Annual Meeting of the British Medical Association, Plymouth, and now published in the *British Medical Journal*.

The emergency service, which is everywhere adopted in the Newcastle area, is a something by itself. The essential points are that expert attention is immediately forthcoming, while the outfit, which is accompanied by a nurse, contains all reasonable surgical requirements and also those things which are often lacking in an industrial household, such as blankets, hot water bottles, basins, and so on. It is especially designed to deal with those acute crises which may occur in the most carefully supervised case but are more liable to happen in the present somewhat disjointed system of maternity service. Shock and postpartum or antepartum hemorrhage are typical examples of the cases most urgently in need of such a service, but threatened or actual eclampsia and difficult labors or "failed forceps" cases would derive benefit also.

### How the Service Works

It is obvious that expert service given on the spot to a patient who is shocked and collapsed from postpartum hemorrhage and with a retained placenta is preferable to the delay and handling of a desperately ill woman entailed by sending her in an ambulance to hospital. For local calls the service can be in the patient's house as soon as an ambulance would be likely to arrive, and for distant calls long before the patient could have reached a hospital.

A doctor faced with an emergency sends a message to the maternity hospital giving his name, the name and address of the patient, and the name of the consultant on the panel he wishes to attend. He may also give some details of the nature of the case. This message is sent by private telephone or by a telephone kiosk, or by one of the police-box telephones. On receipt of the message the hospital telephones for a taxi and details a nurse to go with the outfit, which is kept packed and ready. The consultant is telephoned, and if he is not in then the others on the panel are approached. When one is obtained he goes to the patient's house, taking his usual outfit.

There is a friendly rivalry as to whether the nurse or the consultant will reach the patient first. On arrival at the case the nurse discharges the taxi, which can be sent for when necessary. For cases over five miles from Newcastle the consultant calls at the maternity hospital and takes the nurse and outfit with him in order to save needless transport charges. The nurse detailed is usually one of the district staff nurses, but a more junior nurse is occasionally sent. It is most important that the outfit should be clearly labeled with details of the contents of each package so that a nurse unacquainted with its contents can find them readily. The Newcastle outfit consists of a large tin, a large package, a drum, and some oddments such as a cylinder of oxygen and a container of gum saline. It can easily be carried in the boot of a motor car.

The panel of four is composed of those engaged in private consulting practice in the city. For consultations other than emergency, doctors make their own arrangements direct with the consultant.

The outfit, with a nurse in attendance, has been placed at the disposal of the Newcastle doctors, since it contains many things that might be most useful

in a difficult case and yet not one that requires the presence of an expert. Those doctors using it have to be responsible for the fee for the use of the outfit and for transport charges.

### A Steadily Growing Demand

The service started in October, 1935, and there was only one call that year. In 1936 there were eleven calls, and in 1937 twenty-one calls. There were thirteen calls in the first half of 1938. A steadily increasing demand is made on the service, but not nearly as large as it should be. Badly shocked, exsanguinated, and sometimes moribund women are still sent to hospital from time to time. In 1936 eleven women were admitted suffering from shock and loss of blood, mostly due to placenta praevia, and died within a few hours of admission. It is impossible to believe that some of these deaths could not have been avoided had the emergency service been called in.

Certain of these disappointments are explained by failure of the authorities to give the service sufficient publicity. The profession is a constantly changing one, and annual reminders should be sent out. There is also the instinctive tendency to ignore literature received in open envelopes with half-penny stamps. Other disappointments are due to the deep-rooted belief in hospitals and the marvels that they can accomplish held by the relatives, who no doubt bring pressure to bear. They are unaware that the residential staff may only be a very junior house-surgeon.

Another factor is a dread on the part of certain doctors that the patient will be required to pay a part or the whole of the charges incurred by calling in what is believed to be a free service. Whatever the explanation, my colleagues and I are convinced that we have saved a number of lives—and in just such cases as those which simply cannot be saved when first seen at the maternity hospital.

### Expenses and Fees

As for expenses, there is a charge of one guinea, or about \$5, for the use of the outfit with the nurse in attendance. The fees payable to the consultant are based on arrangements with local authorities. The Northumberland County Council pays these fees.

A primary consulting fee of two guineas, or about \$10, with a mileage rate for every mile traveled, going and coming, of 2s6d (about sixty cents) or 3s (about seventy-five cents) at night. Operative fees are additional, and range from 6 guineas (\$30) for an abdominal operation to 2 guineas (\$10) for a transfusion. Forceps deliveries, repairs, versions, and removal of placentae are intermediate in cost.

The operation of the service is simplicity itself, but for efficiency there must be a central call office responsible for receiving the messages. The panel should consist of all the recognized consultants in the work in any area who care to serve. In more outlying areas the panel could comprise practitioners conversant with obstetrics who commend themselves to their local colleagues.

### What the Outfit Contains

The details of the outfit can be elaborated or amended according to the wishes of those who use it. A modified outfit should be at the disposal of every doctor and midwife, to make good the deficiencies of many industrial homes. Some emergencies are preventable, and will tend to be eliminated by the improved standard of medical and nursing supervision which is being developed and by the closer co-operation which will result between the two services.

This outfit is contained in (1) a bundle, (2) a square case, (3) a drum, and (4) oddments, with contents as follows:

*Bundle* (weight 21 lb., measurements 20 × 10 × 10 in.)

|                                   |                              |
|-----------------------------------|------------------------------|
| 2 brown blankets                  | Bed-pan                      |
| 2 sheets                          | Rectal saline apparatus      |
| 4 hot-water bottles               | Tin containing 1 oz. glucose |
| 2 mackintoshes (1 sheet, 1 apron) |                              |

Square case (weight 27 lb measurements 20 X 10 X 10 in.)

|  |   |
|--|---|
| 2 pint measure                           | Sims's speculum                           |
| 1 small and 2 large basins               | Catgut                                    |
| Obstetric straps                         | Silk-worm-gut                             |
| Flask of sterile water                   | Rubber catheter                           |
| Saline tablets                           | Dental                                    |
| Lotion thermometer                       | Pituitary                                 |
| 2 sterile dressing towels and mackintosh | Erbolin                                   |
| 1 hand towel                             | Morphine, digitalis, strychnine, lobeline |
| 1 pair of sterile gloves                 | Atropine                                  |
| 1 bag of sterile swabs                   | Brandy                                    |
| 2 pairs dissecting forceps               | Adrenaline                                |
| 2 pairs artery forceps                   | Camphor in oil                            |
| 3 scalpels                               | Tinct iodine                              |
| Needles                                  | Spirit soap                               |
| Aneurysm needle                          | Anesthetic mask                           |

|  |                                      |
|--|--------------------------------------|
| Scissors   | Methylated spirit                    |
| Kidney dish  | Coramine                             |
| Nail brush   | Minim measure                        |
| Intravenous saline apparatus                                 | 2 oz measure                         |
| Intra-uterine douche apparatus                               | Novocain                             |
| with Bozeman's nozzle  | Chloroform                           |
| Hypodermic syringe   | Ether                                |
| 10 cc. Record syringe  | Drop corks                           |
| Drum (weight 12 lb height 10 1/2 in circumference 32 1/2 in) | 2 sterile gowns                      |
| Wool   | 2 sterile masks                      |
| Gauze (2 rolls)  | Doctor's hand towel                  |
| Lint   | 4 dressing towels                    |
| Gloves (2 pairs)   | Flask of gum saline                  |
| Oddments   | CO <sub>2</sub> apparatus for babies |
| Oxygen cylinder with tubing and funnel                       |                                      |

## Newsy Notes

The income from patients' fees at the Lutheran Hospital of Manhattan, 144th Street and Convent Avenue, in 1937 was the highest in the history of the institution, Charles O. Pauly, managing director, reported in his annual statement to the board of directors. The number of patients, he said, rose from 2,982 in 1936 to 3,563 in 1937. The gross income from fees increased from \$199,561.63 to \$258,933.00. The highest previous annual income was \$244,983 in 1926.

The plan to have the Department of Agriculture divert surplus farm products to voluntary hospitals has received the support of Bert W. Caldwell, executive secretary of the American Hospital Association.

Dr. Caldwell states the voluntary hospitals of the country are caring for an average of more than 20 per cent charity patients and that another 40 per cent of their patients pay less than the cost of their care. Stating many of the hospitals are finding it difficult to carry this burden, he pointed out the diversion of surplus products to the hospitals would be a great help in the care of indigent patients.

Trinity Hospital, Brooklyn, will be forced out by the creation of a new public square that will include its site. Other sites are being considered for its new location.

Following the presentation of a paper on the "Preserving of Placental Blood

for Transfusions," given by Drs. Charles A. Gwynn and John B. Alsever at a meeting on October 7, 1938, the Syracuse Memorial Hospital Staff decided to establish a Blood Bank for use in emergency transfusions.

Loomis Sanatorium, in Sullivan County, forced into a suspension by a financial crisis, has received aid from the Bernarr Macfadden Foundation, and will probably reopen in May.

The Junior Auxiliary have made more than 20,000 pads, bandages, etc., for the Peekskill Hospital during the past year, and have donated a respirator, food-warmers, sterilizers, stretcher, and other appliances costing over \$1,200.

The formation of a hospital council of Greater New York to co-ordinate hospital services is announced by David H. McAlpin Pyle, vice-chairman of the Hospital Survey for New York. Seventeen organizations have become members of the council, which has headquarters at 370 Lexington Avenue.

The first undertaking, it is stated, will be to consider plans for the expansion or curtailment of services by mergers, rebuilding or abolition of obsolete plants and to check the proposals on an actuarial basis for financial solvency in operation.



## Improvements

New York City's new \$8,000,000 Welfare Hospital for Chronic Diseases, on Welfare Island, will be equipped and ready for emergency service about April 1, although the official opening date is set for next July 1, it is announced by Dr S S Goldwater, Commissioner of the Department of Hospitals

Construction contracts aggregating \$2,099,115 for the new administration building at Bellevue Hospital have been approved by the PWA, Mayor La Guardia announces. Awarding of the contracts will set under way the last principal unit in the long-range program of development at the hospital

Pressure on the facilities of Kings County Hospital, which receives many patients from Queens, will be relieved by the erection of four new buildings adjoining present facilities

The City Planning Commission has included in its budget for 1939 completion of a new building for chronic patients at a cost of \$2,735,500. Another institution for patients with emotional or mental disturbances is proposed at \$1,430,000. To relieve overcrowding of clinics, an expenditure of \$1,087,500 is proposed. A central hospital laboratory, with facilities for the Medical Examiner's office of the county, is planned at a cost of \$400,000

The Veterans Administration in Washington has approved three contracts totaling more than \$2,000,000 for work on an addition to the U S Veterans Base Hospital 81, Sedgwick and University Aves, New York City

Plans for a \$500,000 hospital in Forest Hills, with 145 to 150 beds and all modern scientific equipment, have been announced by Dr Albert E Man of Forest

Hills, president of the newly organized Kew-Forest Medical Association

Tentative plans for a five-story building already have been drawn up, Dr Man said, and a site is expected to be chosen soon

The Schenectady City Council is seeking a PWA grant for the construction of a new wing at the city hospital

Ossining Hospital is making a drive for \$30,000 to cover the cost of a new x-ray department and other expenses

Dr F Dickson Brown is building a new, modern hospital at Hobart, Delaware County, to accommodate six adult and two child patients

Additions, alterations, repairs, and landscaping, costing over a half million dollars, will be made by the Works Progress Administration at the Neponsit Beach Hospital for Crippled and Tubercular Children

Additions to the hospital of the Home of the Daughters of Jacob, in the Bronx, New York City, have increased the beds by 86 to a total of 255

## At the Helm

These hospital officials have been chosen

Dr William J Ryan, of the Summit Park Sanitarium, to be president of the New York State Association of Superintendents and Managers of Tuberculosis Sanitariums

Sister M. Angela, to be superintendent of St. Francis Hospital at Poughkeepsie

Henry K Leworthy, to be president of the directors of Brooks Memorial Hospital at Dunkirk, re-elected

Harold G Metcalf to be president, and Lawrence E Kresge to be superintendent, of Auburn City Hospital

Dr Robert B Manning, to be president of the medical board of Peckskill Hospital, re-elected

Mrs Alfred E Frieman, to be general chairman of the auxiliaries of Southside Hospital, at Bay Shore

Lincoln Cromwell, to be president of St Luke's Hospital, New York City

Dr Joseph D'Errico, to be president of the medical staff of the De Graff Memorial Hospital at Tonawanda

Dr Joseph Baum, to be president of the medical board of St. Joseph's Hospital, at Far Rockaway

Miss Beatrice Spargo, superintendent of the Samaritan Hospital at Troy

## OUR GREAT MEDICAL MOVIE THRILLER

It's like a movie the great national medical drama that is marching across our stage with its heroes villain, and everything. The audience is the public," remarked Dr Peter Irving the other day in an address in Syracuse at a Conference of Social Agencies. He went on

Legislators sit in the mezzanine. Many of the doctors have aisle seats so they can leave quickly in case of fire. Scenes in the picture which show an improved public health service are pleasing to the doctor. He applauds as he views more satisfactory handling of the health of the indigent insurance for workmen's compensation voluntary insurance for hospitalization and for budgeting the doctor's bill. But he has only hisses for the villain in the piece, compulsory health insurance. As he looks upon the screen he hopes that the play will come out well for the audience, who are paying their money to see it, so that he and his patients can enjoy the full benefit of each other's confidence, thus enabling him to give all that he can give—"his very best."

We must not suppose that the doctor is against all socialization in medicine. Dr Irving keenly pointed out in another address before the Rotary

Club of New York City. In many ways he remarked medicine is now and for a long time has been socialized. Sometimes I think people lose sight of that fact. The term socialization I am using to imply the use of community property in this case tax funds, to pay doctors.

All public health service rendered by departments of health is an example of socialization in medicine and it has had thorough acceptance by the private practitioner over the course of years. What is more, he considers it a very bright spot. Particularly in New York State he is enthusiastic over its accomplishments. I would point to the drop in mortality rate from tuberculosis and the advances in treatment of pneumonia as typical instances. The practitioner has said as recently as Sept 17 1938 through the formal action of the American Medical Association that he would like to see this service extended in several ways.

But should the State endeavor to extend its medical activities to accompany the doctor across the threshold of the sick room, and place the hand of government upon the patient's pulse then would the organized practitioners say as at Verdun 'They shall not pass'.

## MUTUAL MEDICAL PLAN FOR DISTRICT OF COLUMBIA

A proposal to provide a mutual health service for low income groups on a small monthly payment basis has been submitted by the Medical Society of the District of Columbia to its members for approval or rejection.

As the basic features of the program were adopted by the Society in October it is predicted the detailed plan will likewise be accepted.

Indicated to be an outcome of repeated charges that the private medical profession is not properly serving the low-income groups the new plan is advanced as an experiment to be tried for a year if 5,000 persons subscribe to the service.

To be eligible for the service subscribers must have incomes of \$2,000 or less a year if single and of \$2,500 or less for husband and wife, with

\$200 additional for each dependent. They must also be employed persons under 60 years old and in sound body and mind and with no known pending medical need.

Subscribers' dues are \$1.50 a month for a single person, \$2.50 for husband and wife, and \$3.50 a month for a family.

A subscriber may have his choice of a physician among participating members of the Society and a physician may decline such selection.

The doctors, subject to the Society's ethical code, must conform with the rules of the Mutual Health Service accept a fee schedule now being prepared, and agree to deduction of 20 to 40 per cent of their fees during the experimental period to maintain a cash reserve for the service.

# Medicolegal

LORENZ J. BROSNAN, ESQ.

Counsel, Medical Society of the State of New York

## "Cancer Cure"—Responsibility of Physician and Hospital

**A** VERY unusual case recently came before the Court of Appeals of this state in which the question arose of the responsibility of both a physician and a private hospital in connection with the use of a so-called cure for cancer \*

The facts in the case were quite extraordinary, and to appreciate the effect of the decision of the court it is necessary to relate in some detail the story of the case as it was developed by the evidence upon the trial

The plaintiff in the case, one H, was a truck driver who had suffered for some time from a sore on his lower lip. He had received various forms of treatment for it but it continued to trouble him. He heard of the defendant D, a chauffeur who had sold certain remedies to cure skin ailments. It seems that D had recently been in Ireland where he had obtained a remedy for the cure of cancer which was said to have been there used in his family for over two hundred years. D met with H and made representations concerning cures by the use of the remedy, which was in the form of a salve. He displayed Irish newspapers containing accounts of such cures, and told him that the ailment could be cured by the salve in thirty-one days. H apparently remained somewhat skeptical, and further meetings were had with D. H's brother was brought into the matter for the purpose of financing the treatment, and it was decided upon his suggestion that a doctor should first approve and supervise the treatment.

Finally, D told H that he had secured a doctor, and took H to the office of Dr. E, a practicing physician. E made a superficial examination of H, and expressed the opinion that the case was a very serious one, the cure for which

would cost \$10,000. The fee was later reduced to \$3,000. After arrangements were made with D and the doctor, H was taken to the P Hospital by D. Upon arrival, they met Dr. E who introduced D to the superintendent and executive manager of the hospital as "the man who has the cure."

H was placed in bed and D, in the presence of Dr. E, proceeded to grind a compound of arsenic and make a paste. Dr. E indicated the place on the patient's chin where the paste should be applied by a plaster, but he was told by D, "No, I don't want it that way. I want it my way." Dr. E then answered, "All right, go ahead," and left the room. He did not return to see H for over two weeks.

D proceeded to apply the paste, in the presence of a hospital nurse to whom he explained that he was not a doctor. He further told her that the paste contained "the most powerful poison in the world" but that it was controlled by his herbs. D's name and telephone number were written on the hospital record as the person to notify in the event of complaints of pain. Subsequent developments were referred to in the opinion of the Court of Appeals as follows:

"In two or three days appellant commenced to suffer pain and his face commenced to swell. D put new skin on the lip where the abrasion was, in an effort to stop the flow of saliva. He told the nurses to administer aspirin and whiskey in case of pain, and they did so. D was present most of the time, 'in and out all day long.' He told the nurse how to put the bandage back on if it fell off. Every day D brought as many as eight or ten people into the room, took off the bandage and demonstrated his treatment, gave a talk on his cure, exhibited pictures

\* 276 N. Y. 252

of S (a previous patient of his), and clip pings from the papers in the presence of the nurse. After appellant had been in the hospital two or three weeks, Dr E came into his room with Mr G (the superintendent) and a hospital doctor. He said, 'I will show you this and see how he is progressing.' He took the outer bandage off and pulled down a part of the bandage with the paste on. He said, 'I don't know a darn thing about this this is all new to me.' The hospital physician asked him, 'Didn't you have that analyzed or looked into?' He replied, 'No. It is his secret. The only one that knows anything about it is him (D).' He said he could not have it analyzed because there are herbs in it and you could not find out what the herbs are. 'The herbs nobody can find out. He is the only one that can get it. Mr G, the superintendent said, 'We will have to play along with him (D). If everything comes out all right, we will all be taken care of.' One night appellant suffered a hemorrhage and the nurse telephoned D. On one occasion when appellant had a hemorrhage, a house physician was called in to stop it. The paste was allowed to remain on appellant's face for twenty-one days, although medical experts testified that it should never be allowed to remain on over eighteen hours. Appellant remained in the hospital fifty nine days, at the end of which period his hospital bill was in arrears, and G, the superintendent, insisted upon his leaving. When appellant left the hospital the flesh had been eaten away from the lip and chin. There was no lip or chin left, and his teeth fell out. It is not necessary to give the horrible details of his condition.

H instituted an action against D, Dr E, and the P Hospital to recover damages for the injuries that he had sustained. Upon the trial there was expert medical testimony to the effect that the injuries were caused by the administration of the salve. The jury rendered a substantial verdict in favor of the plaintiff against all of the defendants.

Of all of the defendants the hospital

alone appealed from the judgment. When the case came before the Appellate Division, that Court divided three to two ordered a reversal as to the hospital. A dissenting opinion was handed down in which the following was said:

'Defendant D, who had no license to practice medicine, was a fraud and a quack. His alleged cancer cure had no merit whatsoever. On the contrary, it was dangerous to human life. The results show that. Defendant E knew nothing about the cure. He made no investigation of it. The facts fully justify the inference that his sole interest was the receipt of the \$3,000.00 fee, that he was as indifferent to results as he was to method, and that he permitted his position in the hospital to be used as a cloak, cover, or pretense for the treatment of the patient by D, who applied the treatments during his almost every day visits to the hospital. The nurses of defendant hospital knew the treatment was in the hands of defendant D, and not of defendant E. They accepted orders from defendant D. Nurses are not expected to advise the administration if they are of opinion that a doctor is not using proper methods, for they are under the supervision of the doctors. But here they observed that it was not a doctor who was treating the patient, although the doctor was engaged for that purpose. This was a concern of administration and not of medical care.'

The matter was taken to the Court of Appeals by the plaintiff, and he succeeded in finally obtaining a reversal of the order of the Appellate Division and a reinstatement of the judgment of the Trial Court against the hospital, as well as against the defendants Dr E and D. The Court of Appeals in so ruling said, in part, in the opinion:

"The evidence introduced by the appellant, if believed by the jury, as we must assume that it was, justified the jury in finding that the hospital admitted appellant knowing that the purpose of his being there was for an improper treatment by a layman, 'the man who has the cure,' as stated by Dr E when

he introduced D to Mr G, the superintendent, that the hospital records showed that D actually personally treated appellant, that nurses, hospital physicians and the superintendent and executive manager knew, during the period that appellant was in the hospital, that appellant was being treated by D, not under the supervision of a doctor, that the superintendent, G, knowing all about what was going on, stated, 'We will have to play along with him. If everything comes out all right, we will all be taken care of.' The superintendent knew that the paste being applied was a secret preparation, its contents known only to D.

"G, the superintendent, knew or should have known that D was engaged in the commission of a crime and that the hospital, in affording its facilities for pay, was aiding and abetting him in the performance of such criminal act.

"In the case at bar the basis of liability is not the negligence of the doctor or nurse in charge, but the wrongful conduct of the executive manager and superintendent acting within the scope of his authority in affording for pay the use of the hospital and its facilities for the purpose of the commission of acts which constitute a tort and a crime in violation of a duty owed a patient."

### Broken Anesthesia Needle

A middle-aged man was referred to a general surgeon for possible surgery. The doctor found that he was suffering from a fissure in ano, a small fistula, and external and internal hemorrhoids. An operation was advised and the patient entered a hospital for the purpose. The surgeon concluded that the general condition of the patient indicated that the operation be done under a caudal anesthetic. Using a steel needle about three or four inches long, the surgeon located the sacral hiatus and introduced the needle through the skin and sacrococcygeal membrane into the sacral canal. One syringe full was injected and then in the course of discharging the second

syringe full, a slight swelling of the tissues in the lower sacral area was noted at a point above the introduction of the needle. The surgeon discontinued the injection and withdrew the needle and found that about an inch of the point was missing.

It was determined to make an immediate attempt superficially to try to find the broken fragment. Using novocaine, an incision was made over the sacrococcygeal junction at the midline, and deepened to about one-half inch. The search was unsuccessful, and after a half-hour of careful work the wound was closed. Thereupon, under a general anesthesia, the originally contemplated operation was uneventfully performed.

After the operation the patient was advised of the breaking of the needle, and after a week had elapsed and x-rays had been taken, the surgeon undertook the removal of the fragment under an anesthetic of gas oxygen. An incision was made beginning at about the base of the coccyx, extending upward in the midline over the dorsal surface of the sacrum. The incision was carried through the subcutaneous tissues down through the sacral hiatus, exposing the canal. The lower end of the canal was carefully examined and the needle was not found. Using a rongeur forceps, a portion of the roof of the sacral canal was removed. Not more than an inch in length of bone was removed, about one-fourth to one-half inch in width. The needle not being promptly found, an x-ray machine was brought to the operating room, and additional pictures taken with a probe lying in the canal. After the x-ray was taken showing the relation of the foreign body in position to the probe and to the parts, further search then located the foreign body in the canal, and it was removed. The wound was then closed.

Following the operation the recovery of the patient was complicated by inability to void normally. Frequent catheterizations were necessary for several weeks until the ability to pass urine normally returned. At that point the

patient left the hospital under the care of the family doctor. Convalescence although somewhat prolonged was satisfactory.

The patient brought a malpractice action against the surgeon, charging negligence in breaking the needle and also generally throughout the care rendered by the surgeon.

Upon the trial of the action before the court and a jury the issues primarily resolved themselves into where the needle was located after its breaking. Plaintiff's expert claimed that the x-rays showed that it was outside of the sacral canal

lying in the superficial tissues, and that the search made by the defendant was not justified.

On the contrary the defendant and numerous witnesses whose testimony obviously impressed the jury as being of a most trustworthy nature, stated that the needle was in fact in the position above mentioned, and that the defendant's procedure was in all respects proper and fully justified.

The jury rendered a verdict in favor of the defendant doctor, thereby completely exonerating him of all charges of negligence and malpractice.

## ANNOUNCEMENT

### Pneumonia Control Program

Post graduate Educational Institute in Pneumonia for the General Practitioner

Announcement is made of a post graduate educational Institute in Pneumonia for the general practitioner, to be sponsored by the Bureau of Pneumonia Control of the New York State Department of Health, the Medical Society of the State of New York, and the Medical Society of the County of Erie. The Institute will cover the subject of the Diagnosis and Treatment of Pneumonia, with special emphasis on serum therapy. The educational facilities of this Institute will be extended to the physician who is desirous of learning more in detail about the recent advances in the diagnosis and treatment of pneumonia and who is anxious to familiarize himself with the exact technic of serum therapy. The Institute will consist of

- 1 Talks by outstanding authorities on pneumonia, i.e., on the various aspects of the diagnosis and treatment of the disease with special reference to serum therapy
- 2 Small group demonstrations on blood donors of the actual technic used in the administration of

serum, the taking of blood cultures and the performance of sensitivity tests

- 3 Lectures and demonstrations on the use of oxygen
- 4 Informal discussions with the speakers and other authoritative physicians, regarding individual problems
- 5 Sound moving pictures, illustrative of the technical aspects of the serum treatment and the nursing care in the home, will also be shown

This Institute will be held in one of the hospitals in the City of Buffalo, shortly after January 1. No fee will be charged to those attending the Institute. Physicians in counties adjacent to Erie County are invited to apply for admission to the Institute. Applications, which will be accepted in the order in which they are received, should be sent to the Chairman of the Public Health Committee of the Medical Society of the County of Erie, Room 1810, Hotel Statler, Buffalo. Cards of admission will be issued after the final arrangements have been made.

# Across the Desk

## Why Europe's "Health Insurance" Does Not Insure Health

**E**VERY morning a street sweeper, with his little refuse cart, stops at the public drinking fountain just outside the Bank of England, in the heart of London, takes a cloth from that cart and polishes the cups. Then, with another cloth from the same cart, he wipes them out and stands them on the lip of the fountain. All clean for the day! In America the health officer would have the cups removed within 24 hours. In spotless Stockholm, too, you will see a public drinking fountain in the beautiful new railway station with six glasses in constant use.

These are but two vivid glimpses of health practices in lands with health insurance systems that we are being urged to imitate. They are recorded by J. G. Crownhart, Secretary of the State Medical Society of Wisconsin, who was sent to Europe by his Society last summer to study state medicine on the spot and report his findings. His report is now published, and may be put in a nutshell by saying that he finds the care of the sick under state medicine lags as far behind American practice as their common drinking cup is behind our sanitary drinking fountains. He finds, in fact, that health insurance in Europe, instead of insuring health, insures hasty and inadequate examination and diagnosis, scant attention, poor treatment, and routine medication. Nor is the drinking cup the only sign of backward health usage.

### "Staff of Life" Open to Germs of Death

All over Europe, bread is marketed without wrapping and without even the ordinary precautions against contamination. Bread and rolls are carried in boxes on bicycles, open to the dust and insects of the street. Meats are sold on open counters with no refrigeration or protection from contamination, and are often exposed on shelves facing the street, free to the dust of every wind. Americans

going to Europe rightly take inoculation against smallpox, typhoid, and paratyphoid, but probably few of them realize the actually inferior health conditions in Europe that make it imperative. Our superiority in health matters is unknown to our own people, or they would never lend an ear to the agitation for foreign health insurance schemes that only insure poor health instead of good health. Europe would do much better to adopt American ideas and practices.

Secretary Crownhart was impressed again and again by the fact that Europe's medical and hospital standards are not those of America. This was indeed confessed by the director of one of the large public health institutes in Denmark. "Sickness insurance is a leveling device," he said. "It assures the mediocre physician just about the same rewards as he who would give an outstanding service if he were to have time. But the incentive is gone, and we develop fewer brilliant minds in our teaching centers and America captures the lead in health and in methods to regain it."

### The Brick That Was Dropped

The Wisconsin Secretary sensed that he had "dropped a brick" when he modestly told various hospital authorities over there that he had "come to learn." He had figured this as a good introductory remark, but somehow it failed to strike the right key. He couldn't understand why, until finally a superintendent in the Midlands remarked:

"You said when you came to see this hospital that you had come to learn. Now what have you learned?"

"You have learned that in the expansion we are planning we will use plans from your American hospital magazines."

"You have learned that in hospital administration I was sent to your cities to learn of their advanced methods."

"You have learned that the medical

students prefer American textbooks for their clarity and fine illustrations.

"You have learned that the equipment that we are proud of is either American or modeled after it.

"You have learned that our hospital is old and without adequate building funds

"What, exactly, do you mean when you say you have come 'to learn?' "

This superintendent put the statement more baldly than others but not more so than the physician in Sweden who said, "Now that you had studied the operation of sickness insurance, tell me one thing—how is it that something so good in theory can be so bad in practice?"

What this physician meant by "bad in practice," says Mr. Crownhart, was not a failure to deliver a service of what we might term "relief medical attention," but its failure to deliver a service in any way comparable to that he personally had observed as general in practice in both the United States and Canada.

#### When Patient and Doctor Meet— What Then?

Many a dazzling scheme, as we too sadly know, often fades into futility in the inexorable test of actual practice, so what we really need to learn about state medicine is what happens when patient and doctor meet. Does the patient receive the right medical attention? If he does, then the scheme is a success—if not, it is a failure. All the rest is trimmings. Well, our Wisconsin secretary applied this test. He visited British panel physicians during their office hours, observed the patients, and gives us the picture. In ninety minutes in the evening the doctor usually must see from twenty to thirty people. It is clear, he says, that in such circumstances, "there can be no physical examination in the sense of the common and accepted practice in our own country," and in fact, "there was not, in the observation of the writer "

Part of the few minutes for each patient had to be given to making out the records required by the system, but these were so sketchy that "their worth from the viewpoint of clinical records approximates

zero " Even the report of the British Health Services admits that the panel doctor "often enough tends to become little more than an agent for signing certificates," and "for operating some thing more like a sickness licensing and registration system than a health service."

It was well summed up by a man at Manchester, obviously trying to do his best—obviously disturbed by his inability to make adequate examinations when he had a waiting room full of patients, and finally turning to the American observer and saying, "I know what you are thinking, but what would you? I do my best and simply must get on with it." That is why the panel practice is sometimes described as "a look and a bottle."

#### French Give the Pay to Patient

County societies contemplating "medical indemnity insurance plans" will be interested in the French scheme, patterned similarly to pay the doctor's fee. The French plan hands the cash to the patient and lets him pay his doctor, any doctor he selects. The patient is entitled to medical benefit for six months, and may have not only general practitioner service, but specialist treatment, obstetrical services, and dental care. Any qualified general practitioner or specialist may be called in, but the fee schedule is fixed by the rules. The fund pays 80 per cent of the physician's fee to the patient, who must pay the other 20 per cent himself, and must also pay any excess fee charged by the doctor above the schedule. This prevents unnecessary running to the doctor. In addition, the system has elaborate "controls" for visiting the patient, inspection, rediagnosis, etc., to prevent abuses.

Here we have, then, a plan that gives the patient free choice of physician and that tries to avoid the evils of other systems. It has been operating so few years, however, remarks the American investigator, "that it well may be that only future experience will provide a background on which sound conclusions may be drawn " Perhaps it is worth watching



## The Sore Spot

Why Europe's "health insurance" plans are delivering Grade B, C, and sometimes Z, medical service was discovered by the Wisconsin secretary. Briefly, the insurance system is concerned chiefly in maintaining the integrity of its own fund against the tendency of the doctors and patients to run up expenses. The British doctor is accordingly given a handbook of standard medical prescriptions, and if he ventures to prescribe something not in the book that costs more, he may be called upon the carpet and, if not found warranted, made to pay for it out of his own pocket. In the official book of instructions to German doctors, too, is a sentence, "the thought of which permeates the entire German sickness insurance system," declares Mr. Crownhart. It reminds the doctor that "the cost of medicines in sickness insurance is mainly at the charge of a third party, the sickness fund," and cautions him that "this particular feature should always be kept in mind." Thus the manager of the system "becomes an agent to protect the financial integrity of the fund for the 98 per cent of the insured who are not ill at a given time against what he fears to be the otherwise uncontrolled inroads of the 2 per cent of the patients who are ill."

This blighting feature runs through practically all the sickness insurance systems of Europe, and Mr. Crownhart studied them all on the spot. He interviewed not only the administrators in the various countries, but spokesmen for labor, the farm, the hospital, the physician, and the patient. He found that

the sore spot is the irreconcilable conflict between the expense of proper medical service and the efforts of the managers to fight all payments down to the last penny. Every new medical and surgical advance saves life, but costs money, and the sickness insurance systems make no provision for anything of the sort. The urge to pinch every cent paralyzes all advance. The doctor who dares to use his own judgment does so at his peril. As one administrator flatly declared at an insurance conference in Vienna, "the risk is shifted from the insurance system to the doctor," and Mr. Crownhart adds that the doctor is loaded "beyond his capacity to render a sound quality of sickness care," and then "the system is insured—not the needs of the sick." In other words, the entire scheme is so planned that it defeats its own purpose, and the elaborate "health insurance" plans insure everything except health.

## Take Mr. Punch's Advice

Has America anything to learn from Europe in health matters? We may well ask it as we survey this scene with the keen Wisconsin investigator, from the refuse collector rubbing the public drinking cup to the hurried and harried panel doctor giving "a look and a bottle."

Shall we imitate Europe's example?

The answer seems to be along the line of Mr. Punch's celebrated "advice to those about to marry."

"Don't!"

W S W

## WHO TIED THEM?

New discoveries amaze us. The other day in a New York City court a quack, described as a "swanky chiropractor," hurriedly paid a \$100 fine after admitting that last September he wrote a prescription for one of the women detectives and charged her a big fee in his offices in the Madison Hotel, for diagnosing her pretended ailment as due to "knotted nerve ends."

## A FEW MORE BILLIONS

It would cost the Government \$4,000,000,000 a year to establish a system of socialized medicine for the care of indigents, according to Dr. Charles G. Heyd, professor of clinical surgery, New York Postgraduate School of Columbia University, addressing the annual banquet of the Buffalo Academy of Medicine and the Erie County Medical Society in Hotel Statler, Buffalo.

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**A B C of the Vitamins.** A Survey in Charts By Jennie Gregory M.S. Quarto of 93 pages illustrated. Baltimore The Williams & Wilkins Company 1938 Cloth \$3 00

**Practical Otolaryngology** By Morris Levine M.D. Second edition Octavo of 416 pages illustrated Philadelphia Lea & Febiger 1938 Cloth \$5.50

**Glaister's Medical Jurisprudence and Toxicology** Sixth edition edited by John Glaister M.D. Octavo of 747 pages illustrated Baltimore, William Wood & Company 1938 Cloth \$8.00

**Clinical Roentgenology of the Digestive Tract.** By Maurice Feldman M.D. Octavo of 1014 pages, illustrated. Baltimore William Wood & Company 1938 Cloth \$10 00

**Clinics on Secondary Gastro-Intestinal Disorders, Reciprocal Relationships.** By Julius Friedenwald M.D. Theodore H. Morrison M.D. and Samuel Morrison M.D. Octavo of 251 pages. Baltimore, William Wood & Company 1938. Cloth, \$3 00

**Text Book of Nutrition.** By J. A. Nixon M.D. and Doreen G. C. Nixon, M.B. Octavo of 219 pages. New York, Oxford University Press, 1938 Cloth \$2 75

**The Harvey Lectures.** Delivered under the auspices of The Harvey Society of New York. Series XXXIII Octavo of 275 pages Baltimore The Williams & Wilkins Company 1938 Cloth, \$4 00

**Aids to Bacteriology** By William Partridge, F.I.C. Sixth edition revised by H. W. Scott Wilson B. M. 16mo of 300 pages Baltimore, William Wood & Company 1938. Cloth \$1.50

**Aids to Biochemistry** By E. A. Cooper D.Sc. and S. D. Nicholas B.A. Second edition. 16mo of 213 pages. Baltimore William Wood & Company 1938. Cloth \$1 50

**Aids to Embryology** By Richard H. Hunter, M.D. Third edition. 16mo of 178 pages illustrated Baltimore, William Wood & Company, 1938 Cloth \$1.25

**The Foot.** By Norman C. Lake M.D. Second edition Octavo of 366 pages illustrated Baltimore William Wood & Company 1938 Cloth \$4.50

**Illustrations of Anatomy for Nurses.** By E. B. Jamieson M.D. Octavo of 62 pages illustrated Baltimore William Wood & Company 1938 Paper \$3 00

## REVIEWED

**Clinical Endocrinology** By Samuel A. Loewenberg M.D. Octavo of 825 pages, illustrated. Philadelphia, F. A. Davis Company 1937 Cloth

Although but little new is furnished by this volume its conciseness, orderliness, and completeness make it a welcome addition to the physician's library. Written by an internist for clinicians and students it becomes more comprehensive and approaches the subject with a much broader viewpoint than many of its predecessors. The various glands are viewed as units and as parts of a great system. A welcome inclusion is a fairly complete exposition of the mysterious pineal body

"Cognizance has been taken of the debatable questions as well as the known facts, and controversial problems are treated as such, care being taken to cite the outstanding opinions and their authors—the predominating opinions on questionable subjects are given at the end of each discussion." The clinical discussions are clear and well illustrated. A valuable addition is the chapter on the significance of laboratory findings.

The print is clear and readable. The reviewer recommends the book for both reading and ready reference.

CHARLES S. BYRON, M.D.

**The New International Clinics. Original Contributions Clinics, and Evaluated Reviews of Current Advances in the Medical Arts** Edited by George Morris Piersol, M D New Series One, Volume 1, March, 1938 Octavo of 322 pages, illustrated Philadelphia, J B Lippincott Company, 1938 Cloth, \$3 00

In this volume of the "Clinics," which is some 300 pages long, a remarkably comprehensive series of articles have been assembled Each article seems to have been selected judiciously and with great care The experimental work reported is sound and conclusive There seems to be little, if any, excessive verbiage If the following issues of this new series are of the same caliber, the publication will be one that every scientifically ambitious physician will wish to acquaint himself with very thoroughly

GEORGE WEBB

**Surgical Anatomy of the Head and Neck.** By John F Barnhill, M D Quarto of 921 pages, illustrated Baltimore, William Wood & Company, 1937 Cloth, \$20 00

As a result of his many years as a clinician and a teacher of otolaryngologic anatomy, Dr Barnhill has produced a work of merit It is an excellent guide for the otolaryngologist, dental surgeon, and ophthalmologist who may have the opportunity to work in the morgue or the anatomic laboratory Its greatest value lies in the references to clinical symptomatology as related to the structures under consideration

The value of the text is greatly enhanced by 431 illustrations, many of which are unsurpassed and most of which are original in their conception The publishers as well as the author are to be congratulated on the make-up of the book The fine paper and the large type used in its preparation are advantages

MERVIN C MYERSON

**Management of the Sick Infant and Child.** By Langley Porter, M D and William E Carter, M D Fifth edition, revised Octavo of 874 pages, illustrated St Louis, The C V Mosby Company, 1938 Cloth, \$10 00

This is the fifth edition of an already well-received volume A book dealing with pediatrics becomes almost obsolete every four or five years, so rapid have been the strides during the past fifteen years The authors have realized this fact in presenting this revision A vast amount of pediatric literature has been scrutinized in a painstaking manner Heavy print and italics are well timed as aids for the busy practitioner

The first part is devoted to handling of symptoms, such as pain, tenderness, fever, diarrhea, cough, etc The second part is taken up with a more or less orthodox discussion of the various diseases by systems The third part is given to methods, formulas, recipes, drugs, and poisons

This volume is an excellent book on pediatric management

THURMAN B GIVAN

**Workbook in Elementary Diagnosis for Teaching Clinical History Recording and Physical Diagnosis** By Logan Clendenen Quarto of 167 pages, illustrated St Louis, The C V Mosby Company, 1938 Cloth, \$1 50

With the appearance of this orderly, sound, and interesting volume, a handy, brief guidebook is offered students of physical diagnosis There is no elaborate discussion of the physics of sound production nor any labored review of regional differential diagnosis, but rather a brief presentation of the essential of history taking and physical examination of the patient Many fundamental signs are defined in the words of the original description A number of helpful pen and ink drawings add to the value of the book

ANDREW M BABEY

#### ORDERING BOOKS

As a service to our readers, books listed in this issue or any other medical book in print may be ordered through T H McKENNA, INC., 878 Lexington Avenue, New York City Phone Butterfield 8-6603

# NEW YORK STATE JOURNAL *of* MEDICINE

---

## *Editorial*

---

### The Indictment of the A.M.A.

As a loyal constituent body of the American Medical Association we would be less than human did we let the implication and the threat inherent in the finding of the District of Columbia grand jury pass into history without a word of comment.

The great daily newspapers have given the details, and also have voiced their opinions editorially. As far as the majority of them did express themselves, we are gratified in the evidence of their confidence in us. The issues are fairly met and however much we may deprecate the propaganda value of finding indictments to coerce acceptance of a method of medical practice, it is not our desire to enter into the details of this controversy at this time.

We may, however, emphasize our position. It is our deep concern that all schemes and plans shall be so devised that the quality of medical care shall not be sacrificed to the cheapness of the care, and the profession shall remain free of political supervision and control. The necessity of providing adequate and high quality medical care to the needy without resort to compulsory health insurance is our immediate problem, and we are on the road to its solution. We desire to work out our solutions gradually, nor does any stringent urgency exist in this state which needs compel haste and hurry.

We contend that we are not *'in trade,'* and our members who practice the art and science of medicine individually are not working *at a trade*. Were we for a moment to assume the contrary, then the corollary would confront us, and the practices and usages of trade unionism would be ready at hand for our use in striving for economic goals. Organized medicine has never contended that it was a trade union or a guild. Our primary concern is not our individual economic advantages, but that the people we are organized to serve shall receive a better quality and a higher grade of medical care.

A great record of achievement is ours: the lowest mortality and morbidity record anywhere, with hospitals and colleges maintaining standards which are the envy and the admiration of the world, a

record of co-operation with public-health agencies that is reflected in the fine health statistics of our people We can afford to go to court and abide the issue We have clean hands

### Medicine Looks Ahead

Events of the past two months furnish concrete proof that the face of medicine is turned toward the future In at least two states and six large cities elsewhere prepayment plans are afoot to provide medical care for low-income groups

In California and Utah state-wide programs will be launched by organized medicine within the next two or three months New York City, Washington, D C , Kansas City, Buffalo, Detroit, and Milwaukee are formulating the details of plans soon to be announced If these projects are successful they will speedily be adapted to the needs of other communities

The method of local selection is far more practicable than nationwide compulsory insurance In a country as large as this the available medical facilities differ from county to county, from state to state Climatic variations, industrial conditions, divergences in income produce totally different medical requirements in different sections of the country

Under the system favored by organized medicine, the profession in each locality would determine community needs and base its program thereon Voluntary nonprofit prepayment plans would supply services which the low-income groups are unable to purchase on an individual basis Government funds would provide for both domiciliary care of the indigent by the physicians of their choice and institutional treatment

The broad and flexible program favored by the profession entails a minimum of bureaucracy and a maximum of actual medical care for each dollar spent It retains the virtues of private medical practice at the same time that it makes the great resources of government available for individual health services

### In a Nutshell

In a defense of the course pursued by the District of Columbia Medical Society, Dr Thomas E Mattingly, a member of its Committee on Economics, summarizes the motives and policies of the organized medical profession in terms that any layman can understand He lays no claim to perfection of method for the profession, but reminds the public "that our social objectives are just as al-

truistic though infinitely less speculative than those who seek our indictment "

The advocates of compulsory insurance try to make up for the weakness of their factual arguments by bitter attacks upon the motives of organized medicine Dr Mattingly reminds the public that the foes of the existing American system of practice have not a monopoly on altruism For thousands of years physicians have fought for the betterment of human health They cannot be accused of abandoning this fight merely because they refuse to subscribe to schemes which their experience and professional convictions reject

Contrary to a prevalent impression sedulously fostered by the proponents of compulsory insurance, medicine does not condemn all prepayment plans Dr Mattingly lays down four principles under which voluntary insurance is entirely acceptable to the profession

- 1 The patient must have the right to choose his own physicians
- 2 No tax subsidies should be granted to one class of citizens which are not available to every other citizen in the same circumstances
- 3 There should be free competition within the profession, and the physician's success should depend on merit rather than political favor
- 4 ' Under no plea of emergency should the patient be persuaded to delegate the control of medical practice to those *who promise more than reason and experience tell us they can deliver* "

As Dr Mattingly succinctly observes, "whatever the faults of the present system of medical care, it at least has the virtue of paying its way " The coming generation in this country will bear the burden of enough half baked reforms without adding to the load with compulsory health insurance

Those who oppose this scheme are not necessarily hard-hearted reactionaries or rogues, and the government should abandon the policy of treating them as such There are 'grave dangers terrifying potentialities,' in allowing 'any agency of government other than the lawmaker to legislate through subterfuge "

The state can effect many beneficial changes in the distribution of medical care by consultation and co-operation with the medical profession It will not effect any lasting medical good by starving or coercing physicians into acceptance of schemes in which they do not believe.

## The Suprarenal Cortex

In the domain of research, the extirpation of organs remains one of the important means for the study of physiologic activity and endocrine therapy. As a by-product it has contributed immensely to the more exact evaluation of clinical signs and symptoms which in turn has led to the transplantation of the physiologic chemist from the laboratory to the bedside. Many clinical phenomena hitherto unexplainable are now known to be the result of a slight dysfunction of one of the glands of internal secretion.

The destruction of the suprarenal cortex has always been associated with the entity known as Addison's disease. It is only within recent years that extirpation studies of the suprarenal cortex have furnished us with a knowledge of the multiplicity of bodily functions which are dependent upon its normal activity. The metabolism of the mineral salts, particularly sodium and potassium, is profoundly affected by its removal, the viscosity of the blood is increased, and alterations are noted in carbohydrate, fat, and nitrogen metabolism. Clinically, early evidences of disturbed neuromuscular function are noted. Each and all of these phenomena can be corrected by supplying to the experimental animal an active extract of the cortical substance.

Confusion, however, still exists concerning the earliest sign or symptom of adrenal cortical dysfunction in humans. This is but natural since in the various animals used for research, some appear earlier in one species while different ones have been reported to become manifest sooner in others. From all the experimental data at hand, we may expect soon a clearer clinical concept of the effects of disturbed suprarenal function. Rhinologists, for example, have reported decided benefit in vasomotor rhinitis from the use of extracts of the suprarenal cortex administered together with dilute hydrochloric acid. Hislop<sup>1</sup> has found that the intramuscular injection of cortin gave good results in marasmus. All indications point, therefore, to a broadening of the scope of the use of suprarenal cortex as a therapeutic agent.

## The Diabetic Situation

It is interesting to reflect upon the changes which have resulted in the diabetic situation since the introduction of insulin. With the marked increase in the diabetic population which has been brought about by the reduction in fatalities there have arisen problems in the prevention of diabetes and management of the mounting

<sup>1</sup> Hislop. *Lancet*, 2: 308 (1938).

number of diabetics Joslin<sup>1</sup> estimates this number as three times that which existed fifteen years ago Because the disease is of such nature that at the present time it can only be controlled rather than cured, the care of the patient should logically fall to the family doctor rather than to the specialist The dietary regime is simple of application and the rules for insulin medication are standardized The addition of protamine zinc insulin has further simplified treatment, so that with this armamentarium, the general practitioner is competent to guide a diabetic along a successful course

The attention of the metabolists is now being directed more toward the field of prevention Only recently has the significance of heredity been realized as an important factor in the development of this fundamental metabolic defect This follows the laws governing the transmission of recessive traits It is strongly urged that two known diabetics should not marry and have children, nor should a diabetic marry a person of diabetic heredity<sup>2</sup> The avoidance of obesity in a predisposed individual and a measured daily carbohydrate intake in an otherwise average normal diet are recommended as preventive measures Finally, recent experiments have proved that diabetes can be artificially produced by the injection of anterior pituitary hormone in animals without injury to the pancreas<sup>1</sup> This result, achieved by means of a hormone, leads to the belief that there exists within the body a counterprinciple that is capable of preventing one from having the disease

Until such time as the treatment of diabetes will be altered we are still confronted with the increased number of living diabetics whose best assurance for their continued well-being lies in the efficient, scientific control of their malady by their family doctors

### A Service to the Rochester Community

Public minded and civically inclined laymen have just made a contribution to the whole Rochester community by dedicating to the Rochester Academy of Medicine a new auditorium, library, and museum The ceremonies took place from January 11 to 13, and were of intense interest to both the local profession and the public

The function of an Academy of Medicine in the co ordinated ranks of medicine carries out a different function than that performed by the units of organized medicine Largely its function is of educational import and dependent upon the success with which it carries out this function, it stands in a given community as a symbol of progress in medicine But in addition—because the teacher has

<sup>1</sup> Joslin E P N Eng. J Med. 219: 547 (Oct. 13), 1938

<sup>2</sup> Adlersberg D and Siegal S N Eng. J Med. 219: 104 (Aug. 11) 1938



always held a place of high esteem and because his rôle is obviously unselfish, an Academy of Medicine has come to represent to the public the unselfish and unself-seeking side of the medical profession. It is a source of information on the past history of the romantic rise of medicine—from a priestly cult to a science and an art. It is a center of ready reference to answer perplexing problems that occur in so many elements of life, and as one contemplates its activities one realizes—when it has finally established itself—that the community could hardly get along without it.

The Medical Society of the State of New York congratulates the City of Rochester for having made possible to itself this educational service which we feel sure the Rochester Academy of Medicine will fulfill for it.

### Current Comment

"Man is mortal, man is frail. It may be that some fine day we shall all work for the pure joy of effort, that we shall strive and struggle with only the prod of the desire for efficient achievement. But that day is not yet. If I have to have a sawbones look me over, give me one who has some slight interest in getting me back into the pink. Put ten doctors—or ten men of any profession—in one organization, pay them all approximately the same, make it difficult if not impossible for any one to get fired. In a month, two are doing all the work, while the others play golf. Quoting from "State Medicine, Navy Style," an article from an anonymous contributor, in the January *American Mercury*

. . .

"Most of the idealism, the self-sacrifice, the unselfishness, the burning passionate interest in the welfare of humans, the unflinching devotion to their duty, and the deepest religious convictions that exist in the young men who begin their lives in America, you will find in those young men who enter medical schools. We believe that Thurman Arnold has unwittingly raised an issue that lawyer-politicians would prefer to keep quiet.

How much more of our freedom of ac-

tion, of our liberties to engage in the exchange of goods and services, must we sacrifice to the obsessions of legalistic department dictators in Washington who have unlimited power to regulate a productive system which they do not understand?" From the editorial page of the *New York Daily Mirror* of December 22, 1938.

. . .

"If the case is fought through the courts, as the medical association promises that it will be, it must end either in a victory for them, which would leave everything as before, or a defeat which might very gravely jeopardize their invaluable function of generally policing the profession." "The Doctors Are Indicted," and the *Herald Tribune* of December 22, 1938, comments editorially thereon.

. . .

"We all know we are too self-willed and impatient and lazy to follow a doctor's directions. We all know that cooperation and obedience are the rarest virtues known to mankind. Until we Americans, rich and poor, agree to cooperate with our medical adviser and obey his decrees, discussion of bigger and

better medical attention is just so much piffle. As a matter of fact, most of us think we know more about ourselves than the doctor possibly can. At least, if we do not think so, we give a letter perfect imitation of thinking so. To this fact is due a great deal of the enormous cost for medical attention in the United States which is the fundamental basis from which those who would socialize medicine bring their argument.

Frankly, the nation needs socialized medicine much less than common sense. If patients had more of that commodity, and realized the folly of seeing a physician and then stubbornly refusing to follow his instructions, there would be less serious illness and fewer premature departures from this vale of tears by persons who are really ill but knew entirely too much to follow their doctor's advice." A clipping from the San Bernardino (Calif.) *Telegram*:

"There is this difference between the two temporal blessings—health and money, money is the most envied, but the least enjoyed, health is the most enjoyed, but the last envied, and this superiority of the latter is still more obvious when we reflect that the poorest man would not part with health for money, but that the richest would gladly part with all his money for health"—Colton

"As to how many people can be included in the 'medically indigent' group, there is, of course, no definite standard. It is a strange coincidence that on one hand we hear loud cries of inability to pay medical fees after meeting the 'necessities of life,' and on the other hand equally loud cries from Health Conferences that medical services are so great a necessity of life as to require a special social service plan 'Consistency, thou art a jewel.'" Recently published comment in the Columbus Academy of Medicine *Bulletin*:

• • •

"The Medical Trades Assembly is busy these days with matters of jurisdiction. There is still the question of where gastro-

enterology leaves off and proctology begins, whether the application of hot stupes is physiotherapeutic or in the realm of the internist, whether paracentesis abdominalis is a medical or a surgical measure, whether eczema is dermatologic or allergic, etc., etc.

'This confusion is the result of the loose methods and unfair practices that existed before the entrance of medicine into craft unions.

"In those ancient days it was not an uncommon experience to find an obstetrician prescribing a feeding formula for a baby, an abdominal surgeon reducing a fracture, or an internist ordering a hot water bottle.

'In those benighted times there were even those who called themselves general practitioners and who transgressed with impunity the field of the obstetrician, the orthopedist, the pediatrician, and even the dermatologist. Since medicine has unionized, such doings are a thing of the past but the echoes of those days may still be heard.

Joe Bruznoski, business agent for Obstetric Local No. 24, calls attention to the new rule that goes into effect Nov. 2, whereby all obstetricians are required to have helpers. Fine ideal. More union members at work.

"We wish to call attention again to the rules as to working hours. No work may be done before 8 A.M. or after 5 P.M. and no work on Saturdays, Sundays, or holidays. Exceptions to this may be made only with the consent of the Committee of your Local. If a condition arises where you feel that something should be done outside regular working hours take it up with your Committee which meets every Thursday at 8 P.M. Under no circumstances are you to do anything until their approval has been secured.

"The question of jurisdiction in the present epidemic of scarlet fever has been referred to the International Union for Settlement." 'Union News from the Organized Medical and Surgical Crafts' heads the amusing satire to be found in the *Peoria Medical News* of recent date, from which we have quoted in part.

# SURGERY IN HYPERTHYROIDISM

FRANK H LAHEY, M D , Boston

SINCE we have now performed 17,388 operations for goiters, of which 76 per cent have been for hyperthyroidism, it seems probable to me that the chairman of your program committee assigned the subject of surgery in hyperthyroidism to me with the idea that from this large experience certain practical convictions and deductions must have been drawn. In presenting this subject I am less interested in the technical side of the subject, although that is of real importance, than in deductions in this experience as relate to other aspects of surgery in hyperthyroidism, such as the diagnosis of borderline cases of hyperthyroidism, the avoidance of complications, the amount of thyroid tissue to remove, the control of mortality, and anesthesia in hyperthyroidism.

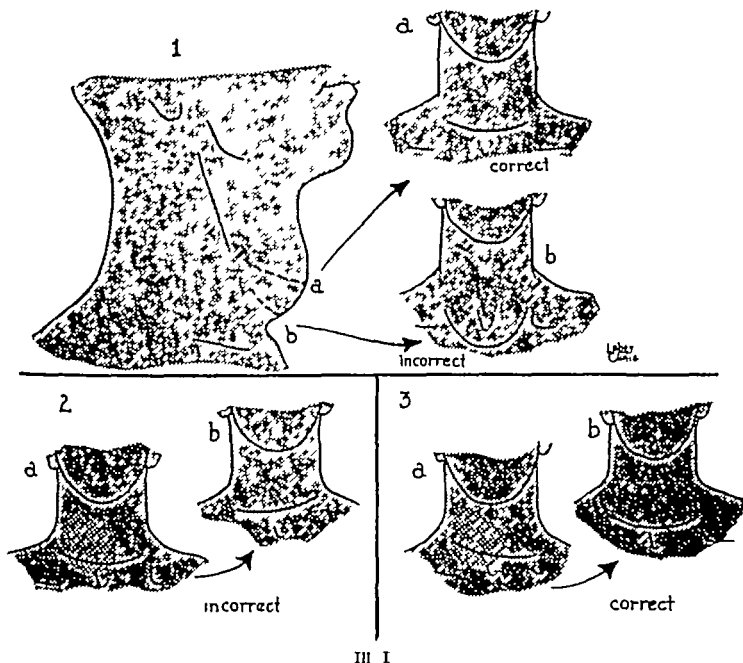
Any discussion of established and frank hyperthyroidism would be a complete waste of time since the diagnosis in these phases of toxic thyroid states is so self-evident. This is not the case, however, in many of the borderline states in which it is extremely perplexing to separate those nervous states of nonthyroid origin from those of thyroid origin. As yet there are available no measures by which this segregation can be quickly and certainly made. Determinations of basal metabolic rate, blood cholesterol, and blood iodine lend us little or no positive aid in separating these vague borderline states into those groups of thyroid origin in which surgery is justifiable and those of nonthyroid origin in which surgery is disastrous.

It is in this group of cases that ill advised surgery does much harm since not only is the gratifying improvement lacking which is so typical of subtotal thyroidectomy in hyperthyroidism but the already nervously shaken individual suffers greater intensification of this state

As a result of this experience which we have had there is nothing which has been more strikingly impressed upon us than the fact that when a patient suspected of having hyperthyroidism is a borderline case there is not the slightest danger of him going into a thyroid crisis. There is not the slightest danger of this group of patients dying from delay. The history of practically every case of true hyperthyroidism is that with time it will reveal itself clinically as a definite hyperthyroidism, or in failing to do so will reveal itself as some other state. One can, I believe, state with reasonable assurance that a majority of the patients suspected of borderline hyperthyroidism will prove to be patients whose symptoms are of nonthyroid origin, and I would particularly stress what I have repeatedly stated, that is, when there is doubt of the diagnosis of hyperthyroidism that doubt should never be settled by operation but by delay and by permitting the individual by his clinical appearance to prove the presence or absence of hyperthyroidism. There will be few cases in our experience in which this proof will not eventually demonstrate itself one way or the other.

We have for a number of years privately stated that there are definitely patients with low-grade, chronic hyperthyroidism, possibly in temporary remissions who show normal basal metabolic readings. We have refrained from making this statement publicly because we believe it to be a most dangerous teaching and one which tends to lend itself to indiscriminate subtotal thyroidectomy. We have seen so many gratifying results following subtotal thyroidectomy in a number of these cases that it now seems worthwhile to call attention to the possibilities of this situation.

The diagnosis of hyperthyroidism and the submission of such patients to sub-



III I

total thyroidectomy in the presence of a normal basal metabolic rate require a high degree of conscientious clinical acumen to properly select those cases in which the conditions are truly due to a hyperthyroidism often recurring in character, and to reject those cases in which symptoms are of nonthyroid origin. We feel that the outstanding clinical factor which must be present in this group of cases is, in the majority of instances, an enlargement of the thyroid gland, but in all cases, firmness of the thyroid gland when it is of the primary hyperthyroid type. Rarely will there be absent in the histories of such patients reports of long standing symptoms of hyperthyroidism with repeated periods of remission. The condition which will be most confusing in this situation which can be settled only

by those who have had a large experience in interpreting toxic thyroid states is that of thyroiditis associated with nonthyroid neurogenic states.

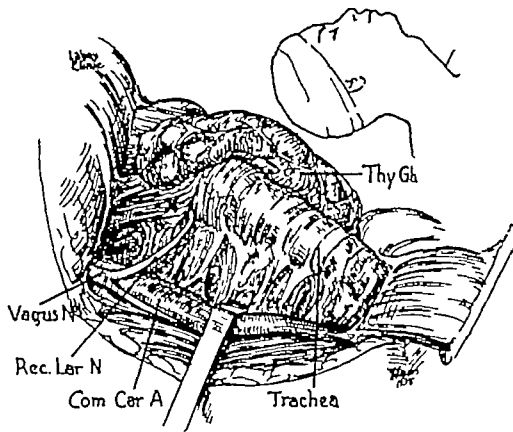
Because we have considered it likewise a dangerous teaching for general dissemination we have never before called attention to the fact that there are occasional patients with multiple colloid adenomas of the thyroid which have become semicystic or seminecrotic with normal metabolisms in whom, following the removal of these adenomas, general improvement appears similar to that following subtotal thyroidectomy in primary hyperthyroidism, with weight gain, pulse drop, restoration of pulse rhythm, and elimination of cardiac symptoms. We realize again in making this statement that it can be sadly misapplied and

lend support to the indiscriminate employment of subtotal thyroidectomy in patients with multiple adenomatous goiters which do not possess the least degree of toxicity. I believe nevertheless since it is my duty to make deductions from this large experience that I should frankly state that such experiences have led me to believe this to be a fact. Some of the most brilliant results which we have obtained by subtotal thyroidectomy, though relatively few in number, are in those older patients who have chronic, recurring, low-grade types of hyperthyroidism in which a very low or at times normal

Little need be said regarding the type of incision for thyroid operations. Concerning that there is almost universal agreement. The important point which we wish to make as a result of our experience with goiter scars in patients with prominent goiters is the compensatory placing of the scar at a higher level than it is desired to be, and the compensatory tilting of the skin incision when one side of the neck is more prominent than the other.

As is shown in the diagrammatic illustrations 1 and 2 of prominent thyroid glands, there will be considerable slipping of the skin following the subtotal thyroidectomy with the result that when the original incision is made at the desired level due to slippage this incision may well migrate down over the front of the chest, a most undesirable level where it cannot be concealed by any neck decoration. In those unilateral prominences of the thyroid, when a well balanced incision is made at the proper level following the skin slippage on one side the original symmetrically placed incision may be so tilted as the result of the unilateral slippage that a most awkward and undesirable scar will result. As is shown in the diagrammatic illustrations, in most patients having large prominent thyroids the skin incision should in a compensatory manner be placed at a higher level than it is desired to be following the removal of the thyroid, and, in those patients with unilateral enlargements of the thyroid, the portion of the incision over the enlarged lobe of the thyroid should be elevated compensatorily as compared with the opposite side so that following the removal of the thyroid tumor slippage will result in a symmetrical scar.

Tetany is undoubtedly one of the most distressing complications associated with the surgery of hyperthyroidism. It should, however, we believe, be largely a matter of the past. As evidence of this is the fact that out of this entire group of cases there have been but fifteen cases of permanent tetany and no permanent tetany has now occurred in this clinic.



III II

metabolic rate has been found. Likewise striking results, as already stated, have to our surprise occasionally followed subtotal thyroidectomy in patients with the necrotic or semicystic type of multiple colloid adenomatous goiter.

Since a majority of thyroid operations will be done upon the feminine sex it is but natural that considerable interest should relate itself to the scar. It is unfortunate that the gain in weight, drop in pulse rate, and loss of nervous symptoms in patients who have had subtotal thyroidectomy do not produce in patients the most lasting gratitude. Patients soon become adjusted to these improvements and forget that they were ever otherwise. A bad scar, however, makes an impression which is lasting and distressing.

in the past two years. These results have not been obtained by a single surgeon but by a group of surgeons operating upon these patients, and they are related in our opinion to the following factors (1) adequate exposure which we believe can be obtained only by severing the prethyroid muscle, (2) a completely dry field (3) an intense light obtainable only by special concentrated illumination of the posterior aspect of the thyroid, (4) a well developed anatomic knowledge of the color, shape, position, and possible relationship of the superior and inferior parathyroid glands. We are by no means certain that the autogenous transplantation of any parathyroids found upon the specimen, as we have suggested, into the sternomastoid muscle plays or has played a real part in the production of this low incidence of tetany. We do know that it has been proved that a patient's own parathyroid glands can be transplanted into his own tissue and there is no doubt in our minds that a parathyroid gland found on the removed specimen at the operating table is better off in a dry hole in the patient's sternomastoid muscle than it is in a pathologic laboratory.

When a successful accomplishment of tissue culture parathyroid grafts immunized to the host's serum was reported by Dr Harvey B Stone of Baltimore, we were thrilled by the possibility of cross grafting hitherto considered impossible. We have done tissue culture cross grafts in six cases with ultimate failure to maintain elevations of blood calcium in the entire group. Drs Coller and Maddock, of Ann Arbor, have likewise reported unsuccessful end results in similar cases. The end results of the tissue culture parathyroid grafts originally reported by Dr Stone, Bowing, and Guy have as yet not been reported. The delay in reporting end results in this group of cases, together with our end results and those of Drs Coller and Maddock, makes it seem possible that the biologic law hitherto accepted that failure will follow cross grafting will in all probability be maintained. A. T. 10, which can be taken by mouth, developed by Holtz of

Berlin and now available in this country, has greatly simplified the management of parathyroid tetany when it has occurred.

It has always been of interest to me that certain procedures in surgery become traditional, are accepted without question, and are handed down unchanged from one generation to another. One of these has been the management of the recurrent laryngeal nerve in subtotal thyroidectomy for hyperthyroidism. It has been handed down from Kocher's time that the recurrent laryngeal nerve should not be seen and that sufficient thyroid tissue should be left over the recurrent laryngeal nerve so that there will be no danger of injuring it.

Three years ago I became convinced that this was not the best way of avoiding injury to this structure. I have repeatedly stated that it seems to me that the question of injury to the recurrent laryngeal nerve is similar to the question of injury to the ureter in hysterectomy. When the ureters were avoided by not demonstrating them but by placing clamps close on the side of the cervix many ureters were undoubtedly injured. When the method of dissecting and demonstrating ureters developed and when surgeons became expert in this procedure, injuries to the ureter became less in number.

Three years ago I instituted in our clinic the plan of exposing the recurrent laryngeal nerve in practically every operation upon the thyroid gland. I have purposely refrained from remarks on this subject up to lately until a sufficient length of time had passed and until a sufficient number of cases had been done so that a positive statement based upon a large number of cases over a long enough period of time could be made.

The reported incidence of recurrent laryngeal nerve injuries in the literature from several clinics has been around 3 per cent. Our incidence of recurrent laryngeal nerve injury up to three years ago was 1.6 per cent. In the past three years well over 3,000 recurrent laryngeal nerves have been exposed and the per-

centage of recurrent laryngeal nerve injury in that period has dropped to 0.3 per cent. We believe as a result of this good-sized experience with exposure of the recurrent laryngeal nerve one may safely say that exposure of the nerve in itself, provided it is handled with reasonable gentleness, will not result in injury to that structure. The course of the recurrent laryngeal nerve is extremely constant. It not infrequently runs over the inferior thyroid artery rather than under it and may easily be pinched in clamping bleeding vessels at the lower pole of the gland. It not infrequently runs beneath the thyroid tissue which overlies the part of the thyroid cartilage where the nerve becomes intralaryngeal so that the introduction of hemostats at this point to control bleeding vessels frequently causes it to be pinched at this level. It is to be recalled, as shown in the illustration, that the recurrent laryngeal nerve occasionally does not descend into the chest to recur but passes directly from the vagus nerve into the upper pole. Failure to dissect and demonstrate this abnormal position will result in its injury. As a result of this experience we feel that we may safely say that the recurrent laryngeal nerve should be demonstrated in all cases and that when it is demonstrated and its course outlined injury to it can be successfully avoided. If it has been injured it should be dissected and if severed its end united. We have easily found and sutured three such nerves cut elsewhere and sent to us for repair. The attitude that a cut recurrent laryngeal nerve cannot be found and sutured is a wrong one.

There is no place in surgery where anesthesia and anesthetists play a more important part than in the surgery of hyperthyroidism. In our experience in a large group of patients upon whom partial thyroidectomy has been done, we have been fortunate in having associated with us throughout the entire time a competent group of men whose entire time and interest have been devoted to anesthesia. We have passed through the employment of various agents to bring about anesthesia in thyroid operations,

beginning with ether. This was soon supplanted by local anesthesia, which in turn was supplanted by nitrous oxide, in turn being supplanted by ethylene which in turn has now been supplanted by cyclopropane. In the course of this experience we have arrived at certain quite definite deductions regarding anesthesia in thyroid operations. Of all the anesthetics, ether is the most undesirable anesthetic agent. Its induction is slow, it produces marked excitation, recovery from it is delayed and with it is associated not infrequently prolonged vomiting, a most undesirable complication in patients operated upon for hyperthyroidism. Vomiting limits the patient's attempt to maintain his metabolic balance and there is no single factor with which we are familiar which is better calculated to intensify toxic thyroid states than prolonged vomiting.

Local anesthesia we believe is undesirable because it makes the operation an emotional ordeal for patients to endure, because it disturbs the anatomy of the operating field, because it limits accuracy of exposure and anatomic dissection and finally because the mortality figures reported by those who employ it are no better than those using some form of inhalation anesthesia.

Nitrous oxide has the advantage of being almost foolproof from the point of view of depth of anesthesia, since when patients are carried too deeply with this anesthetic, jactitation occurs. It has the further advantage that it is not explosive. The disadvantages, however, in the surgery of hyperthyroidism more than outweigh its advantages. The particular objection to nitrous oxide as an anesthetic is that there is frequently associated with it in anesthetic mixtures but 10 per cent or less oxygen. A degree of anoxemia which can result in cerebral changes as sometimes occur with nitrous oxide anesthesia makes it certainly an undesirable anesthetic in patients with hyperthyroidism in whom there exists such high demands for oxygen (500 to 800 cc per minute as compared with 250 cc in the average individual).

Ethylene anesthesia, while a great improvement over nitrous oxide in the surgery of hyperthyroidism, is open to the same criticism as nitrous oxide in that in ethylene anesthetic mixtures there is present usually but 15 per cent or less of oxygen.

Cyclopropane possesses all of the desirable qualities lacking in these other anesthetic mixtures. It is as powerful an anesthetic agent as ethylene, it is not unduly expensive, and in anesthetic mixtures contains from 10 to 15 per cent cyclopropane, leaving a remaining volume of 85 to 90 per cent which may be replaced with oxygen. In actual practice, cyclopropane mixtures probably contain about 50 to 60 per cent oxygen. We have now employed cyclopropane almost exclusively in thyroid surgery since Nov., 1934, and have administered it in literally thousands of cases. In the beginning of our experience with it, it seemed an ideal anesthetic particularly for thyroid surgery. After wider experience with it, however, we are conscious of the fact that it too possesses certain defects from which the patient must be protected. It is particularly likely to bring about cardiac irregularities when patients are deeply anesthetized with it and when patients are carried into deep anesthesia under cyclopropane it must be realized that after the administration of the gas is discontinued the depth of anesthesia may still progress several minutes. Thus, precautions must be taken lest, particularly in cardiac cases, undesirable irregularities be brought about and precautions likewise must be taken lest dangerous depths of anesthesia be obtained. Our anesthetists have, in patients with hyperthyroidism and severe cardiac lesions, combined cyclopropane and nitrous oxide to lessen the concentration of cyclopropane in such cases.

The employment of helium mixed with oxygen as first proposed by Barach for asthma and applied by our anesthetists to anesthesia has been of great aid in managing the anesthesia of some of the patients with severe hyperthyroidism. Helium, a metabolically inert gas, when

mixed with oxygen has the property of so thinning oxygen that it will pass through a smaller aperture. In the mixtures of 80 per cent helium with 20 per cent oxygen it is possible to get in twice as much oxygen as can be introduced with oxygen undiluted with helium. In this large experience with subtotal thyroidectomy for hyperthyroidism we have often had forcibly impressed upon us the undesirability of prolonged laryngeal spasms and how disastrous are such interferences with breathing during the subtotal thyroidectomy when patients cannot receive adequate anesthetic and oxygen mixtures. It is in these cases that the employment of cyclopropane, oxygen, and helium mixtures has so frequently proved of great value.

Another point which we wish particularly to stress as relates to anesthesia is that if in the beginning of an operation for subtotal thyroidectomy there be difficulty with anesthesia, particularly as relates to breathing, an intratracheal catheter should immediately be passed. We have repeatedly had it demonstrated to us particularly in extremely toxic thyroids with marked thyroid vascularity that the combination of technical difficulties in the thyroidectomy with anesthesia difficulties, particularly as related to interference with breathing, can together bring about a fatality. It is infinitely better to take the time before the subtotal thyroidectomy is begun in these cases to introduce an intratracheal catheter, thus insuring a free airway, than to get into these airway complications in the midst of a difficult and bloody thyroidectomy. Still another point which we have always stressed and concerning which we still feel strongly is that anesthetists should observe each patient upon whom the anesthesia is to be given preoperatively and postoperatively in order that they may develop clinical judgment as to the degree of toxicity and as to the need of limiting the operative procedure, since once the operation is underway they are to be the ones to estimate the patient's condition.

Perhaps one of the most important



factors in the surgery of hyperthyroidism is the amount of thyroid tissue to remove. No specific statement can be made regarding this decision. It is here that one may safely state that in surgery as a whole it can always be said that there can be no substitute for experience. This is, however, particularly true in this situation. The experience gained from removing too much thyroid and from removing too little thyroid and the observation of such cases postoperatively is the only real way by which correct estimations can be made. There are, however, certain useful factors related to these decisions. The principal one is the individual's general reactions to iodine and the thyroid reaction to iodine. In those patients whose thyroid gland will involute well under iodine there will be drops in metabolism, gain in weight, drops in pulse rate, and improvement in nervous symptoms. When the thyroid gland of such a patient is under direct vision and an incision made in it, it will be found to be firm, pale in color, and of diminished vascularity. In those patients whose thyroid does not involute under iodine there will be little if any drop in metabolism, in fact, metabolism may rise, there will be no drop in pulse rate, no gain in weight, and no improvement in nervous symptoms and the thyroid gland of such patients will be soft, uninvolved, red, and extremely vascular. In the involuted cases relatively large amounts of thyroid may be left with safety. In the uninvolved cases, the latter group, radical removal must be done, otherwise persistent hyperthyroidism or recurrent hyperthyroidism will occur. In addition to the above, blood iodine studies which we have now conducted over the past four years, which will be reported upon at this Congress by Dr R B Cattell and Mr H J Perkin, have conclusively demonstrated an increased incidence of recurrent hyperthyroidism in those patients with long standing hyperthyroidism who, as the result of a negative iodine balance, have so exhausted their body iodine that instead of having the typical elevation of blood iodine, as is so frequently

associated with an elevated metabolism, show a low or normal blood iodine. When, as reported by Dr Cattell and Mr Perkin, in those patients having elevated metabolism and elevated blood iodine there is an incidence of 0.5 per cent recurrent hyperthyroidism, and when in those cases with elevated basal metabolism and normal or below normal blood iodine, there are 22 per cent recurrent hyperthyroidism, it becomes evident that radical subtotal thyroidectomy should be done in those patients with hyperthyroidism and low blood iodine.

Perhaps the most important single factor in the surgery of hyperthyroidism is the control of mortality. Our mortality figure for the entire 17,388 goiters is 0.76 per cent. We have been able to maintain a mortality rate ranging below 1 per cent constantly even in our worst years in all of our cases of primary hyperthyroidism. In toxic adenoma we have been able to maintain a mortality rate slightly above 1 per cent.

Control of mortality in our opinion has to do with preoperative preparation, the division of the operation into stages, the avoidance of postoperative complications, and the character of the postoperative treatment. There is little range of variation in the possibilities of patients' control in the preoperative preparation. One is limited in the control of the metabolism by rest and by attempting to accomplish involution of the thyroid gland by iodine and is likewise limited in the attempt to balance metabolism by the amount of carbohydrate which can be gotten in by mouth and by vein.

Mortality is, we believe, more definitely controlled by multiple stage procedures than by any other single factor in the surgery of hyperthyroidism. The available stages are ligation of the superior thyroid arteries, first stage hemithyroidectomy followed by second stage hemithyroidectomy. It has always been our experience as has been proved by articles which we have published on this subject that when we diminish the number of multiple stage operations which we do in a given year, the mortality

rate immediately rises. We have demonstrated in reporting 113 consecutive pole ligations that in 66 per cent of these cases there was an immediate drop in metabolic rate, a drop in pulse rate, and a gain in weight. When one realizes that a procedure of such little magnitude as pole ligation will accomplish this improvement in two-thirds of the cases, it is a measure to be seriously considered in any patient in whom there is doubt of his or her ability to withstand a first stage hemithyroidectomy. When one realizes likewise, that in 85 per cent of the cases in which first stage hemithyroidectomy has been done there was an immediate drop in metabolic rate, a drop in pulse rate, and a gain in weight one must seriously consider that in any patient in whom it is suspected that complete subtotal thyroidectomy may be dangerous, an 85 per cent chance of improvement in an operation of definitely less magnitude than subtotal thyroidectomy is to be considered.

The preoperative factors which would lead one to employ multiple stage procedures are marked weight loss, the occurrence of the disease in patients over fifty, in patients who have had the disease over a year or longer, in patients with low blood iodines, and with apathetic thyroid states. It should be realized that basal metabolism is the poorest criterion of operability of all of the factors associated with thyroid disease. The factors on the operating table which indicate severity of intoxication and danger of a fatality are the consumption of large amounts of oxygen, a progressively rising pulse pressure, and the occurrence of technical difficulties particularly with bleeding.

The two outstanding postoperative complications which in our opinion bring about fatalities in hyperthyroidism are postoperative hemorrhage and respiratory difficulties. Postoperative hemorrhage is a most undesirable complication to have associated with the surgery of hyperthyroidism. Postoperative hemorrhage produces fatalities because it occurs most often either on the same day of op-

eration when the patient has already been through a considerable ordeal or on the following day when they are in the stage of postoperative reaction. When it is necessary at such times to give these toxic patients an anesthetic to reopen their wounds and to put them through another operative ordeal, the additional burden is often just enough to bring about a fatality. It, therefore, is of extreme importance we believe to ligate every vessel in subtotal thyroidectomy with the idea in one's mind that caution is to be employed so that postoperative hemorrhages do not occur.

Another postoperative complication which plays a very great part, we believe, in the production of thyroid mortality is interference with breathing postoperatively. We have repeatedly stated that when patients have breathing difficulties while still on the operating table after the wound has been closed, the wound should then and there be reopened, that the difficulty should be found and corrected, and that such patients should not be sent back to bed with insufficient oxygenation.

To permit a patient after subtotal thyroidectomy for hyperthyroidism to pass through his first night after operation a little husky and a little hampered for air is to invite a fatality. Postoperative suboxygenation in patients who have been operated upon for hyperthyroidism often swings the balance in favor of a fatality. We have repeatedly written that when one begins to debate whether or not a tracheotomy should be done postoperatively in patients with hyperthyroidism showing postoperative breathing difficulties, that is the time to do it. There is no great disadvantage in tracheotomy provided the tracheotomy is properly done and placed at a proper level and it is often the procedure which swings the balance in favor of a recovery. Our laryngologists have demonstrated to us that there is a tendency on the part of surgeons to make tracheotomies too high. The easiest place to do a tracheotomy is relatively high, close to the cricoid. This is the point at which the trachea is narrowest and where

strictures are most likely to result. If tracheotomies are made lower in the tracheal ring there is no tendency to narrowing and immediate and spontaneous closure of the air fistula occurs as soon as the tube is removed. It is important we believe in patients with hyperthyroidism having postoperative obstruction to breathing to do early rather than late tracheotomy.

## Conclusions

There is no serious aspect in the patient with borderline hyperthyroidism. The condition will settle itself much better with time and observation than with hasty surgery.

There are definitely patients with low grade chronic hyperthyroidism and with multiple colloid adenomas in whom subtotal thyroidectomy even in the presence of a normal metabolism, will give good results. These cases are, however, rare

and require most conscientious discrimination.

The reports up to the present of tissue culture cross grafting of parathyroids for tetany show little encouragement that it will be a successful procedure.

The incidence of injury to the recurrent laryngeal nerves is too high and can be materially lessened by the demonstration and dissection of nerves in every subtotal thyroidectomy.

Anesthesia is an extremely important factor in the surgery of hyperthyroidism. Intratracheal anesthesia, cyclopropane, and the employment of helium have marked real advance in anesthesia for thyroid disease.

Indications for the radical and conservative removal of thyroid tissue in hyperthyroidism are discussed, as also is the relation of multiple stage measures to mortality. The relation of hemorrhage and respiratory difficulty to mortality is also discussed.

## A DOCTORS' CLUB AT THE BIG FAIR

Physicians and public health workers will have their own Professional Club, an incorporated organization, at the New York World's Fair of 1939, it is announced. Housed in the fair's Medical and Public Health Building, the Professional Club will be the first of its kind at any international exposition.

The Professional Club will occupy 5,000 square feet on the main floor of the Medical and Public Health Building, devoted to scientific and educational exhibits.

Accredited members of the American Medical Association and the American Public Health Association will be eligible for membership in the Professional Club. It is expected that membership will be extended to other professional groups.

The incorporators of the Professional Club are Dr. James R. Reuling, Jr., who has been elected president, Dr. Edward R. Cunniffe and Dr. Matthias Nicoll, vice-presidents, Mrs. W. R. Walsh, secretary, and Dr. B. Wallace Hamilton, treasurer. Dr. Alfred Hallman is chairman and Dr. John Bauer vice-chairman of the board of directors.

## PROGRAM FOR SOCIAL HYGIENE DAY, FEBRUARY 1

The Bureau of Social Hygiene invites physicians to participate in the activities of Social Hygiene Day, February 1.

All sessions of diagnostic and treatment stations, and central office will be open to physicians who are invited to visit them. The facilities available to physicians in practice will be fully explained.

The special emphasis which the Bureau places on physicians' share in the control of Venereal Disease will be reviewed. Staff members of the Bureau will be available to answer questions and to explain any problems arising in the routine of drug requisitions and consultation appointments.

A meeting will be held at 125 Worth Street, New York City, Department of Health Building Conference Room, second floor at 8:30 P. M. Prominent guest speakers will participate.

Addresses of Social Hygiene centers and copies of the program may be secured by writing the Bureau of Social Hygiene, 125 Worth Street, New York City, or by phoning WOrth 2-6900, EXtension 252.

# THE KIDNEY FUNCTION IN HYPERTHYROIDISM

ELMER C. BARTELS, M.D., Boston

**H**YPERTHYROIDISM does not cause any important anatomic changes in the kidneys and the possibility of changes in function has received little attention. Yet the profound effects of thyrotoxicosis on other vital organs points to the need for careful scrutiny of changes in renal physiology under the metabolic strain of this disorder.

Mention of the effects of thyroid disease on the kidneys has been found in only three publications. In Means' recent book on *Diseases of the Thyroid*, he stated that pathologic changes were not noted in his cases except for slight vascular changes and an occasional hyalinized glomerulus. Observations on renal function were reported in two earlier papers. Lawrence and Rowe reported without comment the results of the phenolsulphonphthalein tests in a comparative study of hyperthyroidism and myxedema. In the former the average phthalein excretion in two hours was 59 per cent, in the latter 53 per cent. Lerman and Brogan found that the results of this test were negative in seventy-five cases of exophthalmic goiter, except for a slight diminution in excretion with older patients.

Further study of the problem was undertaken for two reasons. An effort was made primarily to obtain additional data concerning the metabolic effects of hyperthyroidism by using a more sensitive method to detect less apparent changes in renal function. Secondly, the information was desired to aid in interpreting the results of studies of the hepatic function recently made at the Lahey Clinic, using the hippuric acid excretion test of Quick. Briefly, this test consists of the administration of 5.9 Gm. of sodium benzoate, followed by the quantitative

collection of the urine for the next four hours and the determination of the hippuric acid in the specimen obtained. This study indicated that liver function undergoes a change in the presence of hyperthyroidism more frequently and to a greater extent than has previously been shown. After publication of these data the possibility that changes in renal function might affect results was suggested.

Kohlstaedt and Helmer studied the latter question. In a series of cases of hepatic disease they determined both the hippuric acid excretion and the urea clearance. They concluded that with a normal urea clearance test, a low output of hippuric acid indicated impairment of hepatic function. However, if the urea clearance was less than 50 per cent of normal, the diminished output of hippuric acid might be influenced by renal damage as well as hepatic disturbance. They stressed the advisability of performing both the urea clearance and hippuric acid tests so that the significance of the latter might be judged clearly.

## Method

The urea clearance test was selected for this study because it apparently gives accurate and complete information regarding the functional ability of the kidneys. The urea clearance test of Van Slyke was used. Values between 75 and 125 per cent represent the normal range.

Twenty-three cases of hyperthyroidism were included in this study (Table 1). The only criterion for selection was absence of discernible renal or vascular disease, including hypertension. In all these cases the kidneys had the power to concentrate normally. Freyberg has shown that the value of the urea clear-

(Department of Internal Medicine, the Lahey Clinic)

Read before the International Goiter Conference, Washington, D. C., September 1938.

TABLE 1

| CASE | AGE<br>YEARS | SEX | TYPE OF<br>HYPER-<br>THYROID-<br>ISM | DURA-<br>TION | WEIGHT<br>LOSS,<br>POUNDS | BASAL<br>METABOLIC<br>RATE | UREA<br>CLEARANCE,<br>PER CENT | BLOOD<br>PRESSURE | TYPE OF OPERATION      |
|------|--------------|-----|--------------------------------------|---------------|---------------------------|----------------------------|--------------------------------|-------------------|------------------------|
| 1    | 24           | F   | P H.*                                | 2 years       | None                      | +54, +20                   | 94                             | Normal            | Subtotal thyroidectomy |
| 2    | 52           | F   | A D †                                | 4 years       | 30                        | +39, +52                   | 89                             | Normal            | Hemithyroidectomy      |
| 3    | 55           | F   | P H                                  | 6 months      | 13                        | +75, +59                   | 66 72                          | Slight<br>anemia  | Pole ligation          |
| 4    | 29           | F   | A D                                  | 1 1/2 years   | 16                        | +21, +20                   | 97                             | Normal            | Subtotal thyroidectomy |
| 5    | 57           | F   | A D                                  | 1 year        | 20                        | +49, +46                   | 72                             | Normal            | Hemithyroidectomy      |
| 6    | 54           | F   | A.D                                  | 3 months      | 15                        | +38, +29                   | 108                            | Slight<br>anemia  | Subtotal thyroidectomy |
| 7    | 52           | F   | A D                                  | 2 years       | 25                        | +27                        | 74                             | Normal            | Subtotal thyroidectomy |
| 8    | 37           | F   | P H.                                 | 2 months      | None                      | +32                        | 104                            | Normal            | Subtotal thyroidectomy |
| 9    | 62           | F   | A D                                  | 1 year        | None                      | +48 +43                    | 70                             | Normal            | Hemithyroidectomy      |
| 10   | 40           | F   | P H.                                 | 2 years       | 15                        | +53 +36                    | 68                             | Normal            | Hemithyroidectomy      |
| 11   | 51           | F   | A D                                  | 3 years       | 40                        | +22, +21                   | 81                             | Slight<br>anemia  | Subtotal thyroidectomy |
| 12   | 27           | M   | P H                                  | 8 years       | 32                        | +56, +25                   | 105                            | Normal            | Hemithyroidectomy      |
| 13   | 39           | F   | P H.                                 | 4 months      | 26                        | +30, +21                   | 89                             | Normal            | Hemithyroidectomy      |
| 14   | 53           | F   | A D                                  | 4 years       | 30                        | +32, +32                   | 65                             | Normal            | Hemithyroidectomy      |
| 15   | 47           | F   | P H                                  | 4 years       | 20                        | +74, +38                   | 85                             | Normal            | Hemithyroidectomy      |
| 16   | 28           | F   | P H                                  | 3 months      | None                      | +47, +38                   | 74                             | Normal            | Hemithyroidectomy      |
| 17   | 49           | F   | P H.                                 | 1 1/2 years   | 22                        | +34, +29                   | 80                             | Normal            | Subtotal thyroidectomy |
| 18   | 40           | F   | P H                                  | 6 months      | 20                        | +37 +32                    | 110                            | Normal            | Subtotal thyroidectomy |
| 19   | 34           | F   | P H                                  | 1 year        | 10                        | +32, +28                   | 92                             | Normal            | Subtotal thyroidectomy |
| 20   | 24           | F   | P H                                  | 4 years       | 10                        | +37, +16                   | 118                            | Normal            | Subtotal thyroidectomy |
| 21   | 58           | F   | P H                                  | 1 year        | 20                        | +71 +32                    | 100                            | Normal            | Hemithyroidectomy      |
| 22   | 40           | M   | P H                                  | 8 months      | 35                        | +82 +29                    | 117                            | Slight<br>anemia  | Pole ligation          |
| 23   | 51           | M   | P H                                  | 8 months      | 55                        | +75 +54                    | 126                            | Slight<br>anemia  | Pole ligation          |

\* Exophthalmic goiter

† Adenomatous goiter with hyperthyroidism

ance test is lessened in many cases after the concentrating ability of the kidney is diminished. This factor did not come into consideration in our series.

The test was made during the period of preoperative management. In a few instances two tests were made but usually one test sufficed as the results of repeated tests seemed to agree with those obtained first. Of the twenty-three patients, only three were males. Fifteen patients had exophthalmic goiter and eight patients, adenomatous goiter with hyperthyroidism.

## Results

The results of a comparative study of those patients over fifty years of age and those forty years of age and under are given in Table 2. One half of those over fifty years had determinations below the accepted normal of 75 per cent, only three being over 100 per cent. The average was 85 per cent. In the group

forty years or under, only one patient had a determination under 75 per cent, with five over 100 per cent. The average was 100 per cent. These results compare with those obtained in the study of Lerman and Brogan who found a diminution in the output of phenolsulphonphthalein in older patients.

In Table 3 are shown separately the results of urea clearance in cases of exophthalmic goiter and adenomatous goiter with hyperthyroidism. Although the average urea clearance is somewhat different in the two groups, 94 per cent and 82 per cent, respectively, this difference may be related to differences in the ages of the patients, the average age of the patients with exophthalmic goiter was thirty-nine years as compared to fifty-one years in the group with adenomatous goiter. Thus, there does not appear to be any significant difference in the urea clearance in the two groups of patients.

In Tables 4 and 5 the results of the

urea clearance in groups divided according to the duration of hyperthyroidism and amount of weight loss during the disease are given. Apparently neither of these factors played a rôle in the alteration of renal function. Likewise, no apparent relationship was found to exist between the level of the basal metabolic rate and the urea clearance, as indicated in Table 6. Five patients had mild grades of secondary anemia (cases 3, 6, 11, 22, and 23) but this did not seem to hinder the normal renal function as some of the highest urea clearance determinations were obtained in those patients.

TABLE 2—COMPARISON OF UREA CLEARANCE WITH THE AGE

| CASE | AGE, YEARS | UREA CLEARANCE PER CENT OF NORMAL | AVERAGE      |
|------|------------|-----------------------------------|--------------|
| 9    | 22         | 70                                |              |
| 21   | 38         | 106                               |              |
| 5    | 67         | 72                                |              |
| 3    | 65         | 66-72                             |              |
| 6    | 64         | 108                               |              |
| 14   | 63         | 85                                |              |
| 7    | 52         | 74                                |              |
| 2    | 52         | 89                                |              |
| 11   | 51         | 81                                |              |
| 23   | 51         | 126                               | 84 per cent  |
| 1    | 24         | 94                                |              |
| 20   | 24         | 118                               |              |
| 12   | 27         | 105                               |              |
| 16   | 28         | 74                                |              |
| 4    | 20         | 97                                |              |
| 19   | 34         | 92                                |              |
| 8    | 37         | 104                               |              |
| 13   | 30         | 89                                |              |
| 18   | 40         | 110                               |              |
| 22   | 40         | 117                               | 100 per cent |

with low grades of anemia. The pulse pressure had no direct relation to the urea clearance as judged by a rough comparison.

It is of greatest interest to see if there is impairment of renal function in the most severe cases of hyperthyroidism. The severity of the illness is indicated by the type of operative procedure selected. Subtotal thyroidectomy in one operation is employed in most cases. Subtotal hemithyroidectomy in two stages, is employed in the more serious cases and this is preceded by pole ligation in a few of the most desperately ill patients. Therefore, if there is any change in renal function at all, one should look for it in the latter cases. Table 7 shows, however, that the type of operative treatment had

TABLE 3—COMPARISON OF UREA CLEARANCE WITH TYPE OF HYPERTHYROIDISM

| CASE                 | UREA CLEARANCE PER CENT OF NORMAL EXOPHTHALMIC GOITER | CASE        | UREA CLEARANCE PER CENT OF NORMAL ADENOMATOUS GOITER WITH HYPERTHYROIDISM |
|----------------------|---|-------------|---|
| 1                    | 94  | 2           | 89  |
| 3                    | 66  | 4           | 97  |
| 8                    | 104   | 5           | 72  |
| 10                   | 68  | 6           | 108   |
| 12                   | 103   | 7           | 74  |
| 13                   | 89  | 9           | 70  |
| 16                   | 85  | 11          | 81  |
| 16                   | 74  | 14          | 65  |
| 17                   | 80  |             |   |
| 18                   | 110   |             |   |
| 19                   | 92  |             |   |
| 20                   | 118   |             |   |
| 21                   | 106   |             |   |
| 22                   | 117   |             |   |
| 23                   | 120   |             |   |
| Average 94 per cent  |   | 82 per cent |   |
| Average age 39 years |   | 51 years    |   |

no relation to the result of the urea clearance test. In the two cases in which preliminary pole ligation was required before thyroidectomy was done, renal function was unimpaired, in fact, in these cases the urea clearance was high.

### Summary and Conclusions

This study presents evidence to show that hyperthyroidism, as such, no matter how severe, does not affect or alter renal function as determined by the urea clearance test. In only six cases out of twenty three was the determination be

TABLE 4—COMPARISON OF UREA CLEARANCE WITH DURATION OF HYPERTHYROIDISM

| CASE | DURATION OF HYPERTHYROIDISM | UREA CLEARANCE PER CENT OF NORMAL | AVERAGE     |
|------|-----------------------------|-----------------------------------|-------------|
| 8    | 1 year or less              | 104                               |             |
| 6    | 2 months                    | 108                               |             |
| 16   | 3 months                    | 74                                |             |
| 13   | 4 months                    | 89                                |             |
| 3    | 6 months                    | 66-72                             |             |
| 18   | 6 months                    | 110                               |             |
| 22   | 8 months                    | 117                               |             |
| 23   | 8 months                    | 126                               |             |
| 5    | 1 year                      | 72                                |             |
| 9    | 1 year                      | 70                                |             |
| 19   | 1 year                      | 92                                |             |
| 21   | 1 year                      | 100                               | 92 per cent |
| 4    | over 1 year                 | 97                                |             |
| 17   | 1 1/2 years                 | 80                                |             |
| 7    | 2 years                     | 74                                |             |
| 10   | 2 years                     | 68                                |             |
| 1    | 2 years                     | 94                                |             |
| 11   | 3 years                     | 81                                |             |
| 14   | 4 years                     | 89                                |             |
| 15   | 4 years                     | 85                                |             |
| 20   | 4 years                     | 118                               |             |
| 12   | 6 years                     | 103                               | 87 per cent |

TABLE 5—COMPARISON OF UREA CLEARANCE WITH AMOUNT OF WEIGHT LOSS

| CASE               | WEIGHT LOSS,<br>POUNDS | UREA CLEARANCE        | AVERAGE     |
|--------------------|------------------------|-----------------------|-------------|
|                    |                        | PER CENT<br>OF NORMAL |             |
| 0 to 15 pounds     |                        |                       |             |
| 1                  | None                   | 94                    | 87 per cent |
| 8                  | None                   | 104                   |             |
| 9                  | None                   | 70                    |             |
| 16                 | None                   | 74                    |             |
| 19                 | 10                     | 92                    |             |
| 20                 | 10                     | 118                   |             |
| 3                  | 13                     | 60-72                 |             |
| 6                  | 15                     | 108                   |             |
| 25 pounds and over |                        |                       |             |
| 7                  | 25                     | 74                    | 93 per cent |
| 13                 | 26                     | 89                    |             |
| 2                  | 30                     | 89                    |             |
| 14                 | 30                     | 65                    |             |
| 12                 | 32                     | 105                   |             |
| 22                 | 35                     | 117                   |             |
| 11                 | 40                     | 81                    |             |
| 23                 | 55                     | 126                   |             |

low the range of normal. In all cases the change was of a minor degree, since five of the six occurred in patients over fifty years of age, this change can be explained as some minor vascular renal disturbance common to patients of this age. No relationship was found between the urea clearance and the type of hyperthyroidism (either exophthalmic goiter or from adenomatous goiter), duration of dis-

TABLE 6—COMPARISON OF UREA CLEARANCE WITH LEVEL OF BASAL METABOLIC RATE

| CASE                   | BASAL<br>METABOLIC<br>RATE  | UREA CLEARANCE<br>PER CENT<br>OF NORMAL | AVERAGE     |
|------------------------|-----------------------------|---|-------------|
|                        | Rates less than 30 per cent |   |             |
| 20                     | +16                         | 118                                     | 96 per cent |
| 1                      | +20                         | 94                                      |             |
| 4                      | +20                         | 97                                      |             |
| 13                     | +21                         | 89                                      |             |
| 11                     | +21                         | 81                                      |             |
| 12                     | +25                         | 105                                     |             |
| 7                      | +27                         | 74                                      |             |
| 19                     | +28                         | 92                                      |             |
| 22                     | +29                         | 117                                     |             |
| 6                      | +29                         | 108                                     |             |
| 17                     | +29                         | 80                                      |             |
| Rates over 30 per cent |                             |   |             |
| 8                      | +32                         | 104                                     | 85 per cent |
| 14                     | +32                         | 65                                      |             |
| 18                     | +32                         | 110                                     |             |
| 21                     | +32                         | 106                                     |             |
| 10                     | +36                         | 68                                      |             |
| 15                     | +38                         | 85                                      |             |
| 16                     | +38                         | 74                                      |             |
| 9                      | +43                         | 70                                      |             |
| 5                      | +46                         | 72                                      |             |
| 2                      | +52                         | 89                                      |             |
| 23                     | +54                         | 126                                     |             |
| 3                      | +50                         | 66-72                                   |             |

ease, weight loss, level of the basal metabolic rate or severity of the disease as indicated by the type of operative procedure employed.

This conclusion seems to bear out the clinical opinion that patients with hyperthyroidism in the absence of cardiac failure or pre-existing nephritis tolerate an abundance of fluid given by the intravenous route. The results also probably disprove the presence of an hepatic-renal syndrome for in spite of severe degrees of

TABLE 7—COMPARISON OF UREA CLEARANCE WITH TYPE OF OPERATION

| CASE | OPERATION              | UREA<br>CLEARANCE<br>PER CENT<br>OF NORMAL | AVERAGE       |
|------|------------------------|--|---------------|
|      |                        | 60-72                                      |               |
| 3    | Pole ligation          | 60-72                                      | 106 per cent  |
| 22   | Pole ligation          | 117  |               |
| 23   | Pole ligation          | 126  |               |
| 2    | Hemithyroidectomy      | 89   |               |
| 5    | Hemithyroidectomy      | 72   | 82 per cent   |
| 9    | Hemithyroidectomy      | 70   |               |
| 10   | Hemithyroidectomy      | 68   |               |
| 12   | Hemithyroidectomy      | 105  |               |
| 13   | Hemithyroidectomy      | 89   |               |
| 14   | Hemithyroidectomy      | 65   |               |
| 15   | Hemithyroidectomy      | 85   |               |
| 16   | Hemithyroidectomy      | 74   |               |
| 21   | Hemithyroidectomy      | 106  |               |
| 1    | Subtotal thyroidectomy | 94   | 94.8 per cent |
| 4    | Subtotal thyroidectomy | 97   |               |
| 6    | Subtotal thyroidectomy | 108  |               |
| 7    | Subtotal thyroidectomy | 74   |               |
| 8    | Subtotal thyroidectomy | 104  |               |
| 11   | Subtotal thyroidectomy | 81   |               |
| 17   | Subtotal thyroidectomy | 80   |               |
| 18   | Subtotal thyroidectomy | 110  |               |
| 19   | Subtotal thyroidectomy | 92   |               |
| 20   | Subtotal thyroidectomy | 118  |               |

changes in hepatic function which have been found in cases studied at the Lahey Clinic, the kidney has escaped alteration in its function.

### Bibliography

- 1 Lawrence C H, and Rowe A E. Endocrinology 12 377-450 (July, Aug) 1928
- 2 Lerman J, and Brogan, A J. Endocrinology 16 251-256 (May-June) 1932
- 3 Means J H. Philadelphia J P Lippincott Company 1937, 602 pp
- 4 Bartels E C and Perkin H J. New England J Med, 216 1051-1060 (June 17) 1937
- 5 Quick A J. Arch Int. Med 57 544-556 (March) 1936
- 6 Kohlstaedt K G and Helmer O M. Am J Diges Dis and Nutrition 3 459-466 (Sept.) 1936
- 7 Freyberg R H. J A M A, 105 1575-1580 (Nov 10), 1935

"I am a great believer in luck. The harder I work the more luck I seem to have."—From *Fifty Years a Country Doctor*

## CONCERNING OXYGEN-WANT IN PILOTS FLYING AT 12,000 FEET ALTITUDES

ALVAN L. BARACH, M D, New York City

THE effects of moderately high altitudes, such as are used frequently in civil and military aviation, on the pilot's judgment and other mental functions have been recently made the subject of discussion and supposed controversy between investigators in this field.<sup>1</sup> In the interest of a more correct interpretation of the evidence and the views of the investigators involved, the following excerpt from an article published in the official journal of the Aero Medical Association of the United States is presented<sup>2</sup>

'The present study is concerned with the effects of a 4 hour sojourn in a simulated high altitude of approximately 12,000 feet (low oxygen chamber) on a complex mental function, as solving problems on a slide rule. Such an investigation seemed relevant to the possible effects of oxygen want on reasoning and judgment. The physiologic and psychologic effects of relatively mild degree of anoxemia have been made the basis for the suggestion by Barach that oxygen inhalation be employed at altitudes of 10,000 and 12,000 feet or over in aviation. It is now recognized that the rebreathing tests on pilots during the World War gave a distorted impression of the effects of oxygen deprivation on mental reactions. In these tests each pilot rebreathed a certain amount of oxygen, so that the point of collapse was reached within twenty to thirty minutes. By exerting great effort, the average pilot would not show marked impairment until just previous to collapse, thereby giving a false impression as to the altitude which might be tolerated over several hours.

'Numerous experiments in low oxygen

and low pressure chambers and with rebreathing devices at sea level have demonstrated that mental impairment is manifested at oxygen partial pressures corresponding to relatively low altitudes, well in advance of impending collapse as stated by Dunlap. In a low pressure chamber Wilmer and Berens found that there was slight impairment in the more delicate visual functions at 12,000 to 15,000 feet. This has recently been confirmed in experiments involving the photographing of eye movements under anoxemia. Tanaka, working with Halldane in a low pressure chamber at Oxford, observed a sudden decrease in efficiency in mental and physical work at 15,000 feet, or 428 mm of pressure. In Barcroft's low oxygen chamber at Cambridge, Lowson found a significant decrease in mental tests when the diminution of oxygen reached approximately 50 per cent of the normal, or 15,000 feet. In trans-Andean flights, during one half an hour at 14,000 and 10,500 feet without oxygen, McFarland observed a decrease in mental flexibility and in capacity for simple mathematical problems. In a more extensive investigation of the effects of prolonged flights at altitudes ranging between 8,000 and 12,000 feet on trans-Pacific flights, McFarland and Edwards found only slight impairment in the crew of eight airmen at the highest altitude reached. The observed differences did not show statistical reliability. They attribute the high degree of mental alertness in the airmen at those altitudes to the acclimatization attained during the long flight of 126 hours in the air, covering 14,000 nautical miles. Flack suggested to members of the Royal Air Force that

*(From the Department of Medicine, Columbia College of Physicians and Surgeons and the Presbyterian Hospital)*



oxygen should be inhaled even at relatively low altitudes to prevent fatigue during military operations."

The final conclusion of this paper was as follows:

"There were perceptible differences in behavior and a greater frequency of subjective ailments in the low oxygen series compared with air. The two subjects who were physically unfit experienced numerous ailments such as headaches and dizziness and they had greater difficulty in concentrating. They worked very quietly throughout all of the series. The other two subjects, who were in good physical condition, were more boisterous and talkative in the low oxygen series compared with air."

"The results of these experiments and the others reviewed above suggest that airmen would be benefited by inhaling oxygen at 12,000 feet or over in maintaining a higher degree of mental efficiency. Since men in poor physical and mental condition are especially sensitive to anoxemia, the inhalation of oxygen would be especially indicated in those instances."

In the report referred to of McFarland and Edwards<sup>3</sup> the average altitude was 9,460 feet. Evidence of acclimatization was proved by the increase in the number of red blood cells found in these airmen. However, the Brightness Discrimination Test which gives an objective measure of diminished sensitivity of the retina to light stimulation under anoxemia showed a "slight yet consistent diminution at 10,000 to 12,000 feet, similar to results obtained in chamber studies at sea-level." The existence of *slight* degrees of impairment at altitudes of 8,000 to 12,000 feet is consistent with the view that a high degree of mental efficiency may be maintained under the most *favorable* conditions, in pilots who have had the opportunity to acclimatize. However, this does not indicate that these airmen maintain the *highest* degree of mental efficiency. Furthermore, it is freely acknowledged that the acclimatized airman only shows a favorable response to tests of his mental and bodily

functioning when he remains at rest.<sup>3</sup> "If one engages in overt physical activity, as may be observed in a steward while actively engaged in serving meals, at 11,000 to 12,000 feet, the pulse rate may be considerably increased, slight cyanosis and fatigue may be observed, as well as heightened temperamental reactions."

## Conclusions

1 In short flights, both in military and commercial aviation, no evidence of acclimatization to low oxygen atmospheres has been demonstrated. The exposure of pilots to altitudes of 10,000 to 12,000 feet produces an anoxemia which may be compared to intermittent carbon monoxide poisoning, such as may occur in poorly ventilated garages.

2 The damaging effects on the mental and bodily functions of the unacclimatized individual after exposure to an altitude of 15,000 feet, in which the oxygen pressure of the atmosphere is approximately 50 per cent of the normal, have been described by many physiologic investigators. More sensitive tests of cerebral function at altitudes of 12,000 feet reveal that judgment and emotional control may be distinctly impaired with this degree of oxygen-want, and, furthermore, that this type of impairment is aggravated by (a) physical activity, (b) physical unfitness, (c) nervous conditions, especially in psychoneurotic individuals, and (d) the ingestion of alcohol.

3 A review of the experimental data now available leads to the conclusion that pilots, both those engaged in military as well as civil aviation, deserve protection from repeated exposure to that degree of oxygen-want which is experienced at altitudes of 10,000 to 12,000 feet and over by suitable administration of oxygen. The point of view which denies the advisability of oxygen administration until such altitudes are reached which seriously threaten the conscious mental functions seems opposed in principle to our present program of public health in other industries. These considerations do not

apply to the average passenger but only to those in whom the presence of certain types of cardiac and pulmonary disease interferes with their capacity to acquire additional oxygen from a rarefied atmosphere.

### References

1. New York State J of Med 37: 1913 (Nov 15th) 1937
2. Barach A. L., McFarland R. A. and Seitz C. P.: J of Aviation Med 8 196 (1937)
3. McFarland, R. A. and Edwards H. T. J of Aviation Med. 8 186 (1937)

## PRIZE ESSAYS

of the Medical Society of the State of New York

The Merrit H Cash Prize will be open for competition at the next Annual Meeting of the Medical Society of the State of New York to be held April 24, 1939, in Syracuse, New York.

This prize of ONE HUNDRED DOLLARS will be given to the author of the best original essay on some medical or surgical subject.

Competition is limited to the Members of the Medical Society of the State of New York, who at the time of the competition are residents of New York State.

The following conditions must be observed

Essays shall be typewritten or printed and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the Committee considers that no essay or contribution is worthy of the prize, it will not be awarded.

All essays must be presented not later than April 1, 1939, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 2 East 103rd Street, New York City.

FRANK B. CROSS, M.D., Chairman  
Committee on Prize Essays

### FRANCE DWINDLING

If the present drop in the national birth rate continues, the population of France in fifty years will drop from 40,000,000 to 28,000,000. Deaths exceeded births by 14,000 in 1937, when foreign emigrants were included in the tabulation and by 30,000 for French families alone. The national birth rate in 1876 was more than 1,000,000 as compared with 610,000 in 1937. During this period the average duration of life has increased from forty-five to sixty years. At the present rate France will lose 100,000 inhabitants a year and in another twenty years the loss will reach 200,000 a year. Meanwhile, in the totalitarian states the birth rate is increasing. There were 861,000 more births than deaths in 1937 in Italy.—J.A.M.A.

### ARE WE CIVILIZED, OR WHAT?

The qualifications of a quack recently arrested in Connecticut consisted entirely in his double and triple joints, together with the fact that he was the son of a seventh son and born under a veil known in the old vernacular as a caul. He reports the *New England Journal of Medicine*. He had supplemented his natural proficiency with some reading in books obtained through correspondence courses and was said to have taken a one-year course in a so-called "medical school" in Chicago but he obtained most of his knowledge from a manual published by a nationally known patent medicine company. His diagnoses were of course guesswork; his favorite verdicts were high blood pressure and gastric ulcers.

# REPORT OF A CASE OF BOECK'S SARCOID WITH CONSTITUTIONAL SYMPTOMS, EYE, GLANDULAR, PULMONARY, AND SKIN LESIONS

LEWIS FOX FRISSELL, M D , and WILLIAM T MEDL, M D , New York City

**T**HIS patient was first seen on May 4, 1934, in the eye clinic complaining that she had had pain and poor vision in the right eye for two weeks. She was found to have iritis, sinusitis, and abscessed teeth. Her tooth was pulled and her sinuses irrigated in the clinic but her iritis became no better.

She was admitted to the eye service on May 28, 1934. Her ear drum was incised because of bulging but no pus was obtained. X-rays of her sinuses were negative. Right mastoid looked congested. Her eye showed iritis with posterior synechiae. Her temperature over an eleven-day period ranged up to 101 F daily. She was discharged to be again followed in the clinic.

She was admitted to the medical ward on June 16, 1934. She complained of vague abdominal pains and pains in her right knee, shoulder, and elbow. She had continued to have difficult vision and headache. Her past history and family history were completely negative.

Physically she was a well-developed and nourished young adult female who was very apprehensive. Pupils were large and fixed. There was slight conjunctival congestion and vessels could be seen in the iris. There was tenderness over the frontal and maxillary sinuses and over the tooth socket from which three weeks before an abscessed tooth had been removed. There was slight enlargement of all the cervical glands and slight general abdominal tenderness especially in both lower quadrants. No skin lesions or joint tenderness were manifested.

Temperature ran from 100 F to 101 F daily. Urine was clear. Red cell counts and hemoglobin were 4.7 million and 83 per cent. White count was 6,500 with 74 per cent polys, 22 per cent lympho-

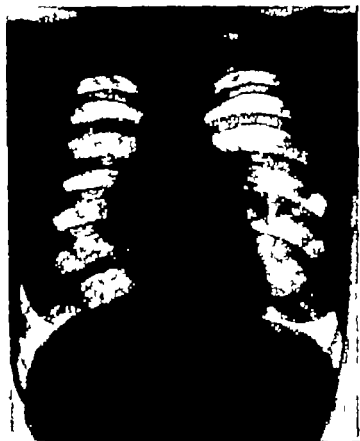
cytes, 2 per cent eosinophiles, and 2 per cent monocytes. Sedimentation rate was normal. Sinuses were clear on x-ray. The tooth socket was irrigated and was negative on x-ray. X-ray of the chest showed enlarged glands in each hilar region which were interpreted by the roentgenologist as suggesting the possibility of Hodgkin's disease.

Agglutinations were negative for typhoid, paratyphoid A and B, abortus, and mellitensis. Wassermann and G C fixation tests were normal. Tuberculin tests with human and avian tuberculin were negative. Urinalyses were consistently negative. Leucocyte counts were on the low side of normal usually being below 7,000, with usual poly percentage of 65. Eosinophiles averaged about 2 per cent but ranged from none to ten. Blood chemistry was normal including total protein, serum albumin, and globulin ratio. Stools contained no pathogenic bacteria, ova or parasites and no occult blood. Repeated x-rays of sinuses and mastoids showed nothing. Gastrointestinal x-ray series were normal. X-ray of chest showed no change in three months.

During her stay of five months, her temperature fluctuated up to 101 F for the first three months and gradually came down to normal. She was given typhoid vaccine intravenously resulting in three chills, with no effect. Her eyes were aching this whole period and she was partially blind. She was given deep x-ray therapy to her mediastinal nodes to see if they were radiosensitive but no change was noticed. After five months, she was discharged with some improvement in her vision but with fixed pupils and posterior synechiae, and floating opacities in the vitreous.

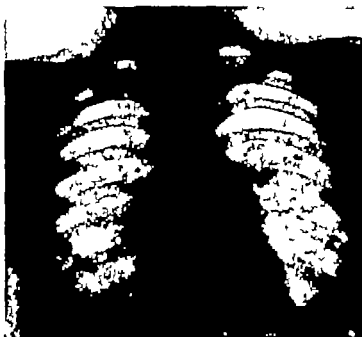
In December, 1934, and January of

1935, the patient was again in the eye ward with flare-up of her iritis. X ray of her chest at this time showed that her hilar glands had receded but that the hilar markings were accentuated. She was then not seen until May, 1936, one year and four months later. She complained of a swelling in her inguinal region and came to the hospital for a hernia repair.



August 17 1934

Because of her previous history, she was admitted to the medical ward for check-up. Some skin lesions were noted which had been present for some time but no exact time was remembered by the patient. They were scattered over her arms and legs with a few on her forehead. They were bluish red, firm, nontender, and varied in size from one half to one cm. Her eyes were as on her previous admissions, fixed pupils, vitreous opacities and posterior synechiae. She had some abdominal tenderness in her right lower quadrant. X ray of the chest showed a shotty infiltration throughout both lung fields and no evidence of the enlarged hilar nodes previously seen.



July 18 1936

Diagnosis of Boeck's Sarcoid was made and confirmed by biopsy of a nodule on the forearm.

Her hernia was repaired under local anesthesia.

Boeck<sup>1</sup> described the condition in 1890 and made histologic examination. He gave the disease the name of sarcoid on account of its resemblance to the small cells of sarcoma, he later believed that the disease was a peculiar form of tuberculosis and termed it "benignes miliar-lupoid."

Not until after the turn of the century, however, was it recognized that this disease did not affect the skin alone. Kienbock<sup>2</sup> in 1902 described bone changes.



September 13 1937

due to this disease which is more elaborately described by Jungling<sup>3</sup> in 1925 Banzancon and Labbe<sup>4</sup> in 1911 first described lesions in the lymphatic system, particularly of the lymph nodes, while Kuznitzky<sup>5</sup> in 1915 first described lung changes. While since this time, sarcoid, as a generalized disease, has been thoroughly recognized, this knowledge has perhaps not been as widely disseminated



May 28, 1936

being arrived at only upon a second admission to the hospital a year later, when she came in for operative hernia repair, and incidentally the typical violaceous, firm, nontender skin lesion was discovered and the correct diagnosis made by pathologic examination.

Our case illustrates admirably the febrile type with eye, lung, and deep gland involvement but did not show the bone changes which are said to resemble



May 28, 1936

as the literature deserved. Many clinicians still regard it as a skin disease. The case we have presented admirably illustrates a disease starting with an iridocyclitis, affecting the mediastinal lymph nodes and later the lung, showed no skin lesions until long after her convalescence from the acute febrile process, which, in itself, lasted four months, during which time many erroneous suggestions were made as to the cause of the fever: sinus, ear, tuberculosis, Hodgkin's disease, the correct conclusion



May 28, 1936

a leprous bone more than any other condition or the final stage presenting the punched-out appearance in the plate which is commonly associated with gout. It also did not show the superficial glandular enlargement except for very slight involvement of the cervical glands on her first admission to the hospital, which was thought to be secondary to tooth infection. Etiologically, dating from Boeck,<sup>1</sup> largely on the ground of the resemblance of the lesion to tubercles, the disease has been considered a form of tuberculosis. Except for this, however, as admirably described by Longcope<sup>6</sup> there is little evidence definitely implicating the tubercle bacillus. Tuberculin reactions, human, bovine, and avian are negative and injections into guinea pigs do not produce tuberculosis.

Led by analogy to lymphogranuloma inguinal, Williams and Nickerson<sup>7</sup> prepared an antigen from the sarcoid tissue which in four cases produced skin reactions within twenty four hours, by intradermal test. The diagnosis of sarcoid was proved in two cases by splenectomy and in the other two cases by resections of the intestine, which microscopically showed the characteristic sarcoid lesion. These authors suggest that, as in the case of lymphogranuloma inguinal, sarcoid is probably also a virus

disease and if this work be substantiated on a larger series of cases, it would seem a far more rational explanation than an atypical tuberculosis. The use of this antigen may also enable us to make a positive diagnosis before the appearance of skin lesions and puzzling pictures such as is presented in our case with prolonged fever, be diagnosed by a skin test. The diagnosis at present, is easy if the skin lesions are present. These are characteristic violaceous, nontender skin lesions and show no tendency to break down and can be readily proved by biopsy. The glandular enlargement, however can readily be mistaken for Hodgkin's disease, lymphosarcoma, or tuberculous glands.

The pulmonary complications can be readily taken for tuberculosis, frequently of the milary type. The eye condition can be readily mistaken for any toxic or tuberculous lesion causing similar symptoms.

### Bibliography

1. Boeck, C. J. Cut. and Genito-Urinary Dis. 17:543 (1899)
2. Klenbock, R. Zeitschrift. f. Hekil. (Chir.) 23: 130 (1902)
3. Jungling, O. Fortschritte a. d. Gebiete d. Rontgenstrahlen 27:375 (1910-21) Beitrage z. Klin. Chir. 143:401 (1928)
4. Barancon, F. and Labbe, M. Nouveau Traité de med. et de Thérapeutique 23:134 (1911)
5. Kusnitsky, E. and Bittorf, A. Münch. Med. Wochens. 62:1349 (1915)
6. Longcope, Warfield T.. Sarcoidosis (Boeck's Sarcoid) 1937 Oxford University Press 4.337
7. Williams, R. H. and Nickerson, D. A.. Proc. Soc. Exp. Biol. and Med. 33:403 (1935)

### EXAMINATIONS IN OPHTHALMOLOGY CHANGED

The American Board of Ophthalmology announces an important change in its examination of candidates for the Board's certificate.

Examinations will be divided into two parts. Candidates will be required to pass a written examination held simultaneously in cities throughout the country on March 15 and August 5. Oral examinations will be held at St. Louis May 15, Chicago October 8.

Applications for permission to take the written examination March 15 must be filed not later than February 15. Application forms and detailed information should be secured at once from Dr. John Green, Secretary 6830 Waterman Ave. St. Louis Mo.

### RUSTICATING THE YOUNGSTERS

Poland has passed a law regulating the practice of newly graduated physicians whereby for two years they may practice only in rural areas or in towns with a population less than 5,000.

The purpose is to relieve the congestion of physicians in the large centers.

The Sixteenth Annual Meeting of The American Orthopsychiatric Association, an organization for the study and treatment of behavior and its disorders will be held at the Commodore Hotel, Lexington Avenue and 42nd Street New York N. Y. on February 23, 24 and 25 1939. Dr. Norville C. LaMar, Secretary 149 East 78th Street, New York N. Y.

# DRUG THERAPY IN SOME COMMON OTOLARYNGOLOGIC CONDITIONS

RALPH ALMOUR, M D , F A C S , New York City

THIS century has witnessed a rapid advance in the therapy of disease. The gains have been accomplished mostly in fields far removed from drug therapy. The more exact knowledge of the uses to which the biologic preparations lend themselves has resulted in the removal of many diseases from the list of hitherto incurable lesions. The enormous strides which have been made in vitamin therapy have further reduced materially the incidence of such maladies as rickets, scurvy, beriberi, pellagra, etc., and have furnished the physician with additional armamentarium in his treatment of the sick. All this has to a large extent tended to throw into disrepute the use of drugs in the treatment of disease. Intimate contact with the more recent graduates in medicine has convinced us that they have but a limited knowledge of the efficacy of drugs. On the other hand it often has been a source of amazement to us to see the beneficial results of a little-known drug suggested during consultation with an older practitioner rich in bedside experience. "Conclusions on its effectiveness are largely a matter of clinical interpretation, with all the opportunities for error which one may attribute to personal equation, and perhaps to personal prejudice. Drug therapy is largely bedside therapy, where the life involved is a human life, where phenomena, of which we may know but little, occur in a variable subject, the human individual with a disease."<sup>1</sup> In order that otolaryngology may not completely discard the efficient service which certain drugs in the past have rendered it, this paper sets forth the personal experiences of the writer with some of them. There is herein contained nothing which is new, even though to some it may appear new. It will be based largely upon clinical ob-

servations, pharmacologic substantiation, where available, will be presented. It is hoped that others will detail their observations along similar lines to the end that this valuable branch of therapeutics may be perpetuated.

*Tonsillectomy in Rheumatics*—One is frequently called upon to remove the tonsils in a person suffering from subacute or chronic rheumatic fever. In such cases it has been established previously that the tonsils are the source of infection. Any disturbance of the local focus of infection, such as may occur during surgery, is apt to liberate into the system a large amount of toxins which will cause an acute exacerbation of the disease. To forestall this, it is advisable to administer sodium salicylate on the evening before tonsillectomy. Two hundred grains (200) dissolved in boiled starch solution should be administered by rectum.<sup>1</sup> This should be continued for five to seven days postoperatively. Despite the fact that the use of salicylates in rheumatic fever and its allied conditions is still empirical, its value in this connection has convinced us of its ability to obviate flare-ups of the disease due to tonsillectomy.

*Small Doses of Quinine*—Following mastoidectomy for acute suppuration, it sometimes happens that a low-grade temperature associated with a secondary anemia will persist for several weeks. We have found that this can be corrected quickly by the use of small doses of quinine. In a child below five years of age, quinine sulfate, grains  $\frac{1}{2}$ , t i d, and in older persons grains 1, t i d, will result in a return of the temperature to within normal range and an increase of the red cell and hemoglobin content of the blood. While here used also empirically, clinical trial has demonstrated

that quinine does stimulate the hematopoietic function of the marrow. In adults, the addition of thyroid extract, grains  $\frac{1}{10}$  per dose, stimulates metabolic function, and enhances convalescence.

*Dermatitis Following Mastoidectomy*—The irritation of the skin surrounding the postauricular incision which is so often noted following mastoidectomy is the result of irritation due to the exudate coupled with the lack of evaporation of the sweat due to the applied bandage. A foul odor develops within twenty four hours after the change of bandage. All this can be obviated by the use of a liberal application of lanolin ointment before a new outer dressing is applied. Better still is a boric acid ointment with a lanolin base. An excellent preparation, one which has given us uniform satisfaction, is Borofax.

*Drugs in Tinnitus*—While we know fully well that tinnitus cannot be cured by the administration of drugs, nevertheless there are instances where it is possible to achieve an appreciable diminution in the intensity of the head noises with the aid of drugs. The older literature is full of references to the value of certain preparations which have now largely been discarded. The writer's experience is limited to the use of a few of them in certain types of tinnitus.

Where, either through overwork or because of a secondary anemia, tinnitus has become unbearable, a striking improvement will in some instances be obtained by minute doses of quinine. This is preferably administered in capsules, as follows:

|   |                       |     |
|---|-----------------------|-----|
| R | Quinine hydrochloride | 0 1 |
|   | Sacch lactis          | q s |
|   | m et f cap no X       |     |
|   | Sig One t i d         |     |

This was first suggested by Jacobson.<sup>2</sup> Caution must be exercised in giving quinine to a deafened person for the relief of tinnitus. If instead of a reduction in intensity, the tinnitus becomes aggravated the drug should be stopped immediately. In this connection, it is of interest to note that Urbant-

schitsch<sup>3</sup> brought about an immediate cessation of a severe tinnitus due to quinine ingestion by the use of amylnitrite.

The bromides have been more generally used for the relief of annoying tinnitus. With these, the writer has obtained his best results with dilute hydrobromic acid. This can be given in 10 to 15 drop doses three times daily, in a half tumbler of water. Since even in this dilution there is danger of injury to the enamel of the teeth, it is advisable to rinse the mouth with a dilute solution of sodium bicarbonate. There is some pharmacologic basis for the use of quinine and bromides in tinnitus. The former has a definite effect on the cochlear end organs, and will produce a nerve deafness when given in large doses. Its favorable action on tinnitus, when given in minute quantities, may be the result of a sedative action on the nerve endings. Bromides act directly on the nerve mechanisms and diminish the symptoms of nervous irritation.

Following the favorable results obtained by Furstenburg in the management of Ménière's disease by alteration of the water metabolism, the writer has employed ammonium chloride in some cases of intractable tinnitus with a resultant marked diminution in intensity of the subjective headnoises. Twenty (20) grains, three times daily, may be tried. In otosclerotics, this should be combined with potassium iodide, 15 grains daily.

In older people, particularly in those who complain of a pulsating type of tinnitus, tincture of digitalis, 10 drops three times daily, often results in complete cessation of the symptom.<sup>4</sup>

*Acute Laryngotracheitis*—This is an inflammatory disease of the larynx, most commonly met with as a complication of the common cold. Very often, however, as happens in singers, teachers, and others who are apt to overuse their voice, a hyperemia of the mucosal lining of the larynx and subglottic regions occurs with a resultant hoarseness, painful phonation, and extremely irritative cough. In the early stage of the disease,



the violent expulsive efforts of this dry, hacking cough exhaust the patient and produce severe discomfort. The usual treatment of rest in bed, inhalations of medicated steam, and the external application of cold to the throat will bring about relief in three days

It is, however, possible to bring relief within a short period of the onset of the disease by the following therapeutic regime. During the past ten years, the writer has followed the recommendations of Neff<sup>1</sup> for the early stages. He prescribes " $\frac{1}{8}$  grain of pilocarpine nitrate in 1 oz of distilled water. Give one teaspoonful every hour for three doses, then every four hours for three more doses, and stop. It will begin to produce moisture of the mucous membranes of the larynx, relieve the pain, and promote expectoration within one hour from the initial dose." To allay the irritating cough during this period of medication, codeine may be given in addition.

Once secretion has been established and the cough has become productive, the facilitation of expectoration and the relief of spasm, preferably without the use of narcotics or the barbiturates, should be started. Here, the more drastic expectorants, such as the emetics (apomorphine, ipecac, or antimony) need not be used because they stimulate secretion from not only the laryngeal and bronchial glands, but also the salivary and sweat glands are stimulated either by direct action on their centers, or reflexly.<sup>5</sup> For the purpose of promoting expectoration, an excellent drug is the fluid extract of thyme.

Following the stopping of pilocarpine, should be given

R̄ Fl Ext Thyme 1 drachm  
 Syr Pruni Virg  
 Aqua Dist aa  $\frac{1}{2}$  drachm  
 D T D in doses no xxiv  
 Sig ̄i q. 2 h

Clinically, this drug, when given before the bronchial secretions become thickened by the exudation of the products of inflammation, will ease the efforts needed to expel the secretions. It prevents the

appearance of a viscous discharge which clings to the walls of the larynx and trachea, and makes the cough spasmodic. The cough thus becomes an act of volition, resembling more the ordinary clearing of the throat.

The exact pharmacology of thyme is still a matter of dispute, and unfortunately little interest has been displayed in its use during the past few years, although it had been widely prescribed by physicians during the past few decades, its presence in the proprietary cough remedy Pertussin may, to a large extent, have prejudiced many doctors. Busby, Bliss, and Ballard<sup>6</sup> consider it an antispasmodic. Gordonoff and Janett<sup>7</sup> have demonstrated by animal experimentation that thyme in large doses acts both as a secretomotor and secretolytic drug. Misgeld,<sup>8</sup> on the other hand, disagrees with Gordonoff's investigation since he feels that no exact method at present is at hand to determine experimentally the value of an expectorant. Only clinical trial, he feels, will determine the secretomotor or lytic effect of a drug used for the symptom of cough. With this the writer is in thorough accord. As Neff states "At present, it cannot be required that all drugs used in clinical practice have a justification for their use in accurate laboratory experimentation. Where such a basis is available, well and good, where it is not, the clinician must, as of old, use as his own laboratory, his patient, with his own equipment, namely, his senses and reasoning power." In the drug regime outlined for the rapid relief and the shortening of the course of acute laryngotracheitis, there are combined a drug (pilocarpine) whose pharmacologic action is known experimentally as well as clinically, and another drug (thyme), the efficacy of which as a medicament to keep the laryngeal secretions liquefied, can be proved by clinical trial (Beck,<sup>9</sup> Saphra<sup>10</sup>).

In singers and public speakers, the combination of pilocarpine nitrate and fluid extract of thyme from the onset, discarding the first drug after the sixth

dose, will materially enhance the return of the normal voice. Where the disease is afebrile and is due to irritation alone, a return to normal can usually be expected within forty eight hours or less. In addition, of course, the usual local methods of therapy should be utilized.

**Otomycosis**—This lesion of the external auditory canal will usually respond to a 2 per cent solution of salicylic acid in alcohol. In a case which did not react favorably to this after a two weeks trial, the writer obtained a cure with a 3 per cent solution of copper sulfate in distilled water, instilled into the external canal after removal of the secretion and a thorough drying of the lining skin. This was first suggested by Valentin.<sup>11</sup> The canal was filled with the solution which was allowed to remain *in situ* for one-half hour, four times daily. Repeated mechanical cleansing of the canal each day and continued use of the copper solution resulted in a cure in five days.

**To Check the Common Cold**—Until the exact determination of the cause of the common cold is known, there will be no specific remedy to prevent it. Fortunately, however, it manifests itself very early by a dryness of the mouth, tickling sensation in the oropharynx, and a feeling of pressure over the glabella and frontal sinuses. When seen during this stage in an adult, it can usually be aborted by the following measures: rye whisky, USP, 4 ounces, should be mixed with an equal part of lemonade (juice of one and one-half lemons), and the rest water. This should be thoroughly chilled with out the addition of ice. With the feet in a hot mustard bath, the patient should be instructed to drink half of this mixture leisurely over a fifteen minute period. Then Dover's powder, grains v, should be taken internally, followed in the next ten minutes by the rest of the alcoholic beverage. He should then go to bed, adequately covered. This remedy is not only effective by virtue of its stimulation

of the sweat glands, but, because of its soporific effect, it enables the body forces to concentrate on the local infection in the rhinopharynx. Furthermore, the patient experiences no discomfort from the sweating since he will be in a sound sleep while this is going on.

Should the patient be first seen where the pharyngeal irritation has produced an irritative cough, the following prescription will be found of value in allaying the cough and dryness of the throat.

R  
 Codein Sulfate gr vi  
 Fl Ext. Thyme 1 1/2 oz  
 Syr Pruni Virg  
 Aqua Menth Pip aa q s ad 3 oz.  
 M et Sig —5i q 3 h

In this brief summary of some useful drugs in otolaryngology, the writer has merely presented the high lights in their use in certain common conditions met with in everyday practice. Many others in our field have had similar experiences with these and other remedies, and the writer feels that they should be more fully emphasized. The custom, lately, it seems, is to delegate to the "detail man" of a pharmaceutical concern the instruction of the coming generations of physicians in the use of drugs in the treatment of disease. This can only be stopped by a free interchange of our clinical experiences in practical therapeutics.

## References

1. Neff L. K. N. Y. Acad. Med. Lectures on Med and Surg., Paul B. Hoeber N. Y., p. 163 (1928).
2. Jacobson and Blau. Lehrbuch der Ohrenheilkunde, Leipzig 3rd Edit. 1902.
3. Urbantschitsch, E., Amylnitrit, Monatsschrift fuer Ohrenheilkunde p. 165 (1877).
4. Politzer A. Lehrbuch der Ohrenheilkunde, 4th Edit. 1901.
5. Meyer H. H. and Gottlieb R.: Experimental Pharmacology, Philadelphia, Lippincott, p. 265 (1928).
6. Busby H. H., Bliss, R. A., and Ballard C. W. Blackiston's Sons Philadelphia, p. 327 (1930).
7. Gordonoff T., and Janetz F.: Zeitschrift fuer die gesamte experimentelle Medizin 75 486 (1931).
8. Mispel, J. F. Medizinische Welt, 8 283 (1934).
9. Beck, W.: Therapie der Gegenwart, 75 27 (1934).
10. Saphra, J.: Medizinische Welt, 8 267 (1934).
11. Valentin. Archiv fuer Ohrenheilkunde 26: 81 (1888).

71 E 80th Street

The International College of Surgeons will hold its Assembly in New York City at the Hotel Roosevelt on May 22, 23 and 24, 1939. For information address Dr. Edward Frankel, Jr. 217 East 17th St. New York City. General Chairman.

# "STATUS THYMICOLYMPHATICUS"

## Unusual Clinicopathologic Observations

TYREE C WYATT, M D , Syracuse

THE term "status thymicolymphaticus" is usually used as an anatomic diagnosis of the pathologist to indicate, for want of a better and more accurate way of description, a group of anatomic findings in individuals who have suddenly and unexpectedly died. This occasionally occurs in young adults but is strikingly much more common in infants and children who have given no recognized indication of the impending tragedy.

The first two cases which I shall briefly review represent this group and are reported only because of the fact that they occurred in the same family, at about the same age. The multiple occurrence in families is not uncommon in the literature, and thus in itself is an interesting fact so far as suggesting possible underlying mechanisms.

### Case Reports

CASES 1 and 2 J W, age five months and N W, age six months (28 15 and P A 32 1 $\frac{1}{2}$ ), females, died suddenly four years apart without evidence of previous illness. The histories of an older male child, the father, and the mother have failed to reveal any facts which seemed important in this connection. There were pathologic examinations on both infants at the request of the parents and the sole findings of lymphoid hyperplasia and small adrenals were recorded as status lymphaticus. The thymus in neither infant was strikingly large.

The next two cases I wish to describe in some detail for three reasons (1) They also were female infants of about the same age in the same family (2) One of them was observed over a period of two months because of attacks of un-

consciousness and collapse and finally was found dead in its carriage (3) The second baby at the age of 3 $\frac{1}{2}$  months, nineteen months after the first baby's death, began to have the same kind of attacks as the first, but still survives.

CASE 3 The history of the first baby (N L) is as follows. At about four months she showed signs of a rather marked coryza which later developed into definite pertussis. After four weeks the cough had markedly subsided. At about that time (about five months of age), she began to have periods of unconsciousness which the mother called "fainting spells." These came on suddenly and lasted approximately from one to ten minutes. Their onset was evidenced by a gasping cry which would attract the mother's attention even in another room, then the baby would lapse into unconsciousness associated with pallor and flaccidity but no cyanosis. As consciousness returned after a period of one to ten minutes, there was always marked flushing and profuse perspiration. When seen at the end of one attack there was no evidence of disturbance of cardiac rate or rhythm. Sugar determination on defibrinated blood taken at this time (2 $\frac{1}{2}$  hours after formula feeding) was 73 mg. The test was repeated at a later time when she had no seizure and was found to be 72 mg.

After the seizures the baby would seem a little dull and listless for a few hours and then would appear normal. She continued to have these spells over the next two months, as many as two or three on some days. There was nothing unusual about the blood count. X-ray showed a thymus which was perhaps somewhat larger than average but not strikingly so. However,

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 10, 1938*

we were already impressed with the possibility of any of these attacks terminating fatally and it seemed advisable to radiate the thymic area. One treatment was given in the hospital but they did not report for more treatments. The attacks continued after leaving the hospital but seemed somewhat less numerous and perhaps somewhat shorter, although the mother's observations may not be entirely reliable. She was inclined to minimize them and my contact with the case during the next six weeks was not very close. The report was that in the week before the baby was found dead it had seemed normal except for one short attack. At no time in any of the attacks was there any suggestion of choking. At the time of death it was seven months of age.

*Pathologic Findings (P.A. 33.2)* — Generalized prominence of lymphoid tissue in lymph nodes, intestine, and spleen. Thymus weighed 27 Gm. Irregular bluish red area of apparent atelectasis in right upper lobe. No foreign material in bronchi. Adrenals seemed smaller than usual and quite thin. Brain and pituitary and thyroid without gross lesion.

*Microscopic Findings* — Lymphoid hyperplasia. Very slight inflammatory reaction in lung in the area of atelectasis in right upper lobe. No definite changes in adrenals.

**CASE 4** J.L., the second baby, born sixteen months later, also began to have periods of unconsciousness at the age of 3½ months which the mother felt were identical in every way with those of the first baby. The subsequent flushing and perspiration were also present. The age of onset in each was about the same. X rays of chest did not show any evidence of enlarged thymus. Blood chlorides 480 mg NaCl, Ca 10½ mg, sugar 11½ mg. During ten days' observation in the hospital there were four x ray treatments of the thymic area (¼ skin unit at each dose). She continued to have periods of unconsciousness after she went home, perhaps averaging two or three a week lasting from five to forty minutes. They moved from Syracuse when the baby was

about one year old, but the mother has written that her last and longest attack was about one year ago. She is now 3½ years old and is reported to appear normal in every way.

The next two cases are infants in the third year of life who came to autopsy after having been ill only a few hours, presenting an obscure clinical picture characterized by convulsions and vomiting.

**CASE 5** The first of these was admitted to Syracuse Memorial Hospital four hours before death. Past history was negative except for convulsions which began on the third day after birth and continued on the next day. There were some twitchings on the fifth day but after that she seemed normal in every way. Spinal puncture showed a bloody fluid. Since that time she had seemed well and normal in every way until the day of admission at two years of age when she had eight convulsions and vomited several times. During the four hours in the hospital before death she was in almost continuous convulsions. Temperature was normal. Acetonuria four plus.

*Pathologic Findings* — Thymus weighed twenty-two Gm. There was moderate prominence of the mesenteric lymph nodes. Both adrenals were enlarged and nodular and, microscopically, showed extensive replacement of the central portion with necrotic material which was partially calcified and in places showed true bone formation with bone-marrow spaces. There was considerable yellowish brown pigment, probably hemosiderin which suggested that there had been at some time previously, presumably at birth, a large hemorrhage into the central portions. Around this central mass there was an irregular zone of cortical tissue, although in certain places it was very narrow or absent. No medullary tissue whatsoever was seen in the sections (Fig 1). The lungs showed slight bronchitis and bronchiolitis with slight evidence of bronchopneumonia. Neither the spleen nor the lymph nodes showed any evidence



FIG 1 Case 5

Photomicrograph of adrenal. Zone A consists of the remnants of the cortical layer which in places was entirely missing. Zone B consists of fibrous connective tissue with bone formation and scattered phagocytes containing hemosiderin. The upper portion of the section consists of structureless necrotic material. The dark mass represents calcification. ( $\times 54$ )

of toxic necrosis in the lymphoid nodules. There was some edema of the brain, but no evidence of birth trauma. The thyroid, pituitary, pancreas, and thymus sections showed no definite variation from the normal.

Because it is almost identical with the above case, I wish to refer briefly to a case which Drs. Wolbach and Wilson studied at autopsy at the Boston Children's Hospital in 1922. Dr. Wilson has kindly given me permission to review the case record. Both of these cases may be reported in more detail by him at a later time.

**CASE 6** This baby was a female, age two years and seven months. Her history was unimportant until the morning of the

day of admission to the Children's Hospital. She waked at 7 A.M., stood up in bed, and fell unconscious. She remained unconscious until death fourteen hours later. There were numerous generalized clonic convulsions before and after admission to the hospital at noon. The physical examination was essentially negative. Temperature and spinal fluid were normal, and blood pressure was 60/40. Death occurred nine hours after admission. The pathologic findings of a twenty Gm thymus, prominence of lymphoid tissue, calcification and ossification of the central portions of the adrenals, with a thinned or absent cortex in places, are almost identical with those of the preceding case, except that in the lymphoid nodules in the various lymphoid

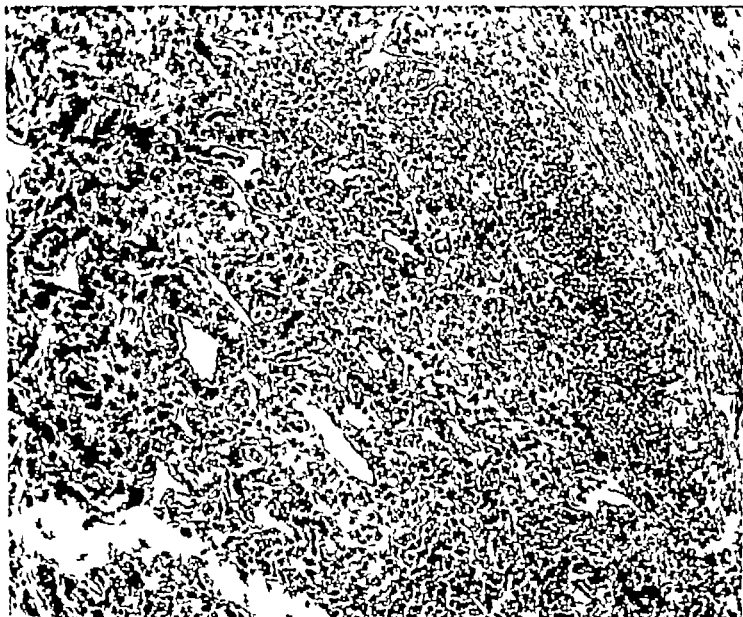


FIG. 2 Case 7

Photomicrograph of adrenal. At the extreme right is thickened fibrous capsule. The diagonal, finely dotted zone running across the right center of the field represents remains of the cortex with scattered leucocytic reaction. The remaining portion to the left of this zone is medulla ( $\times 120$ )

tissues of this case, there was evidence of toxic injury to cells

CASE 7 The last case is that of B B, male, age eleven whose past history seems interesting in several ways. He had had the usual childhood diseases, always with a tendency to vomit in connection with the acute stages, also bronchopneumonia six years previously and a moderately severe attack of rheumatic fever five years previously. About two years previously he had had a severe illness characterized by vomiting of unknown cause. He was visiting with relatives at the time so the details of this illness are not known. For several weeks prior to the present illness his appetite had been unusually large, but with a violent dislike for carbohydrates. The present illness began two days before

his death with an attack of vomiting without abdominal pain and without fever. This occurred during the night. The next morning the vomiting was more severe and there was generalized abdominal pain. In the middle of the morning he went into collapse.

It was obvious that he was desperately ill, apparently in marked collapse, with poor color, very rapid and thready pulse, and marked listlessness. There seemed to be no important findings in the abdomen and the physical examination was essentially negative except for the signs of collapse. After administration of adrenalin, whiskey, and  $\frac{1}{160}$  gr atropine his color improved and his circulation was obviously better. I saw him about three hours later when his condition seemed

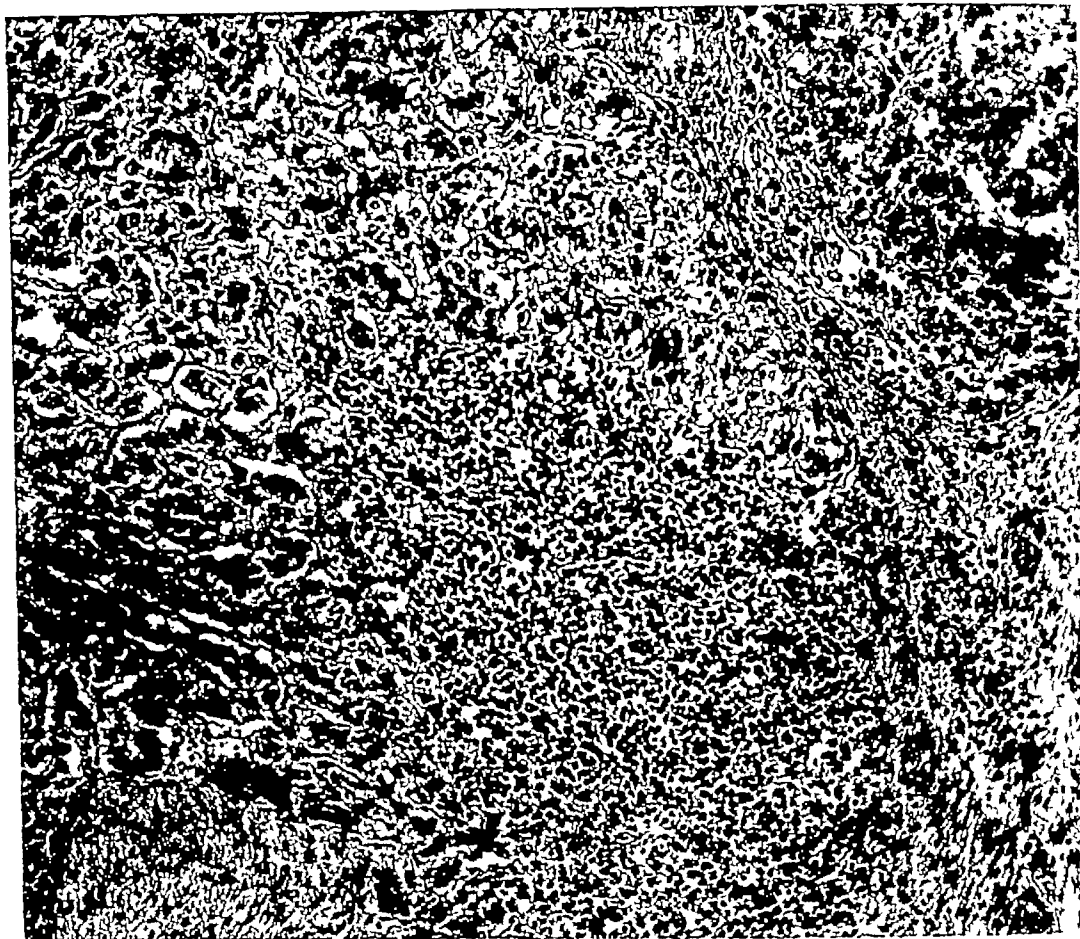


FIG 3 Case 7

Another photomicrograph of the adrenal showing in the lower central section a portion of the cortex with numerous scattered leucocytes similar to the diagonal zone in Fig 2. Upper and left portion is medulla. The extreme right upper corner is an island of surviving, relatively normal, cortex ( $\times 120$ )

much improved and again about eight hours later when he was comfortable, his color and pulse good. Temperature was still normal. He apparently slept fairly well that night but at intervals was somewhat restless. He did not vomit again until the next morning, when he was seen by his physician, Dr Dewitt Brougham, through whose kindness I am reporting the case. He apparently was fairly comfortable and in good condition until that night, roughly forty-eight hours after the onset, when he fainted as he was being taken to the bathroom. He was seen again by Dr Brougham who apparently found him in very much the same state of collapse as that in which I had seen

him the preceding day. He was admitted to the hospital at 10 o'clock that night at which time his temperature was  $101^{\circ}$ . He was extremely restless, completely disoriented, cyanotic, and pulseless. With sedatives he became fairly quiet after admission, although he vomited at times during the night. Fluids were given by vein with some response but he expired eight hours after admission.

*Pathologic Findings* (M.A. 3538) — Autopsy was performed by the writer two hours after death. Thymus weighed twenty-five Gm. The mesenteric lymph nodes were moderately enlarged. There was slight smooth thickening of the mitral valve leaflets with considerable patchy

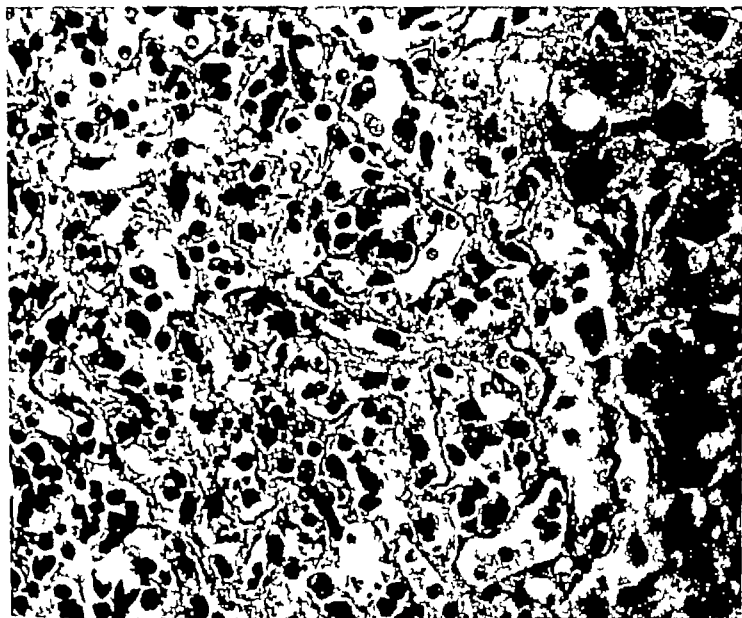


FIG 4 Case 7

Photomicrograph of adrenal Higher magnification showing boundary line between cortical zone and medulla. The right three quarters in the section shows degenerating cortex with scattered leucocytes. The zone on the left is medulla. ( $\times 500$ )

yellowish intimal thickening just above the aortic valve. In the left lateral wall of the left ventricle there was a distinct area of fibrosis about six mm in diameter. Adrenals weighed 2.2 Gm. On section they were firm in consistency, rather grayish in color, and without the usual adrenal markings. The urine in the bladder failed to show acetone or sugar. Aorta seemed distinctly small and thin walled. Thyroid not remarkable.

*Microscopic Findings*—Area of fibrosis in the myocardium. Necrosis and inflammatory reaction in the centers of the lymphoid nodules of the spleen and lymph nodes. The adrenal sections showed striking absence of normal cortical tissue with diffuse infiltration of this zone with lymphoid and plasma cells and a few mono-

cytes and polymorphonuclears. The medullary tissue seemed larger in amount than is usually seen and extended in places out to the fibrous capsule without any cortical zone between. A few small foci of cells which appeared to be remaining cortical cells were found (Figs. 2, 3, and 4). Sections of the pancreas, pituitary, thyroid, liver, and kidneys did not seem unusual. Brain sections showed considerable edema without inflammatory reaction.

#### Summary and Comment

The first two infants presented the usual story of sudden death without preceding symptoms and represent the group of cases with which you are all familiar. Pathologic findings described as "status thymicolymphaticus" with small adrenals



were present. The interesting fact was that they were both in the same family, both females, and both died suddenly at about the same age of unknown cause.

Cases 3 and 4 were also in the same family and of about the same age as cases 1 and 2. The noteworthy and unusual fact about case 3 was that it was observed over a period of two months with attacks of syncope of undetermined cause, then died suddenly and the pathologic findings were those of status thymicolymphaticus. This would suggest that the mechanism which causes the sudden deaths of this type may in certain instances operate to cause sudden attacks of obscure collapse with recovery. Case 4, the sister of case 3, at about the same age began to have attacks of the same sort, but still survives.

Cases 5 and 6, ages two and two and a half years, are apparently cases of acute adrenal insufficiency on a basis of old calcified pigmented lesions, probably an old hemorrhage. Otherwise the pathologic findings were those of status thymicolymphaticus. Both had been well since the neonatal period until convulsions and collapse occurred a matter of hours before death. Such old lesions in the adrenals have been given fairly often as incidental findings in routine autopsies with other adequate causes for death. The clinical history of convulsions and sudden collapse in these two cases is especially interesting in connection with the acute crises which may occur in connection with chronic Addison's disease and the therapy of those crises.

An eleven year old boy (case 7), who presented for two days marked collapse, conceivably might have died suddenly at any time, showed at autopsy hyperplasia of thymus and lymphoid tissues and marked atrophy and degeneration of the adrenal cortex. This type of nontuberculous adrenal atrophy has frequently been described in adult cases of Addison's disease, but to my knowledge has not been described in children. Its cause is unknown but it has been compared to the various types of liver degeneration and necrosis of unknown etiology.

These clinical and pathologic observations with regard to acute adrenal insufficiency (either on a functional or anatomic basis, or both), seem interesting to us in the light of recent progress in our knowledge of the adrenals. They have prompted us to undertake a study of electrolyte metabolism particularly that of sodium and potassium in apparently normal and sick children, hoping that it may offer an approach to the so-called thymicolymphatic problem. That work is in progress.

## Discussion

Dr. George R. Murphy, *Elmsira*—Let me congratulate Dr. Wyatt on his excellent paper and case studies. I am delighted to see that he hopes to be able to study some of the cases in which he suspects sudden death may occur.

Unfortunately so-called status thymicolymphaticus has been, and still is, the waste basket for cases in which there are no obvious causes of death. Careful research into the history, study of the clinical findings, and complete necropsy will tend to make these diagnoses fewer each year.

It is interesting to note that in New York State, exclusive of New York City, during the past seven years there have been reported a total of cases each year from seventy-one to one hundred seventeen as being caused by either status lymphaticus or thymus gland. Seventy-five per cent of these cases were in children under one year.

A study of the literature on this subject reveals an amazing situation. Status lymphaticus has been given as the cause of sudden death since Plater's case in 1614. Attempts have been made to diagnose this condition during life, and Norris of Bellevue described a definite type in certain males, who were said to have an "angelic" body, whatever that may be!

The association of status lymphaticus and emotional instability has been suggested by many observers, and one of the causes of sudden death ascribed to this condition is that of suicide. In fact, even gunmen who met death by violence were said to have shown evidence of status lymphaticus. This peculiar reasoning which ascribes death by violence to a condition which is not particularly easy to diagnose, and which is based merely upon certain findings at autopsy makes one feel that status thymicolymphaticus has been so impressed on the medical profession, that even when they have an obvious cause of death they are inclined to suggest that the thymus is involved.

In reviewing various charts at our two local hospitals (Arnot-Ogden Memorial and St Joseph's hospitals Clinica) I have frequently found that the resident has signed the death certificate as status thymicolymphaticus in cases when there was an obvious pneumonia meningitis, or congenital heart condition etc., because he was apparently impressed by the supposedly large thymus found at autopsy.

Dr Helen Ingleby of Philadelphia Pa has listed six general causes of sudden death with about fifty subdivisions. These general causes are included in the following groups:

- 1 Circulatory failure
- 2 Cerebral death
- 3 Respiratory death
- 4 Shock
- 5 Neuro-endocrino-humoral death
- 6 Intoxication

One of her subdivisions under the fifth heading is known as reflex inhibition a term much favored by the Germans, and to me about as valuable as the term of status thymicolymphaticus.

Those of us who have been in practice long enough have all seen cases of sudden death and have experienced the terrific emotional strain of trying to explain the situation to the parents of the child. On May 21, 1935, I was called at 8 A.M. by an excited father. I arrived at the house within five minutes to find the child age two months to the day dead. This child had been under my care since two weeks of age had been a full term baby with a normal delivery weighing eight pounds at birth. He was on an evaporated milk formula he had done very well and weighed a little over twelve pounds at time of death. An autopsy was performed and we found a thymus which weighed 39.5 Gm, a patent foramen ovale and a patent ductus arteriosus. There was some mesenteric adenitis and microscopic examination of the pancreas showed very few islands of Langerhans' and in these the cell nuclei stained poorly. I do not know what caused this baby's death one can speculate and that is about all.

In two other cases which were diagnosed as enlarged thymus prior to death one showed a neoplasm of the lungs and the other multiple lung abscesses.

I have seen also two cases which were given six to ten doses of x-ray soon after birth. They failed to grow in weight or length and at time of death weighed less than at birth. The ages at death were six and eight months respectively.

There is no question that one sees certain types of cases in which irradiation of the thymus does seem to aid the clinical symptoms. Possibly

these symptoms would have disappeared if a period of watchful waiting ensued. I do know that I find it much less necessary to request irradiation now than I did earlier in my practice. If it is necessary I request not more than two exposures with an interval of two weeks.

A Gracie Mitchell says "The theory of suprarenal deficiency has much in its favor and is supported by certain physiological and pharmacological facts. Suprarenal insufficiency seems to be a possible explanation of certain cases of sudden death which can be accounted for in no other way. What this has to do with the thymus is another matter although there may be an associated thymic and lymphoid hyperplasia and it is interesting that in suprarenalectomized animals there follows a hypertrophy of the thymus according to Marine et al."

J F Casley presents a personal case of a child eight months old who died suddenly and on whom a diagnosis at necropsy of status thymicolymphaticus was made. Twenty four hours later a blood culture grew meningococci.

#### Conclusion

1 There is little sound basis for the association of an enlarged thymus and sudden death.

2 Diagnosis of enlarged thymus is to be made by exclusion plus careful x ray studies in both lateral and A P planes and in both phases of respiration.

3 It probably does no harm to give one or at most two x ray treatments especially if the parents have been frightened by a possible accident.

4 It is sometimes necessary to use the diagnosis of status lymphaticus when trying to console parents. Let us be most careful to be honest with ourselves, however and admit that we do not know the cause of death in a given case.

5 All cases of sudden death should automatically be investigated by careful study of the history examination of the patient's environment and a thorough complete autopsy.

713 E GENESSEE ST

Dr Reginald A. Higgons, Port Chester—  
The subject of "thymic death" is one which must interest all pediatricians if for no other reason than it is ever being brought forcibly to our attention by an apprehensive and only partly informed laity.

Unfortunately even our own group is divided into many camps, both as to the true pathogenesis and also the proper treatment of the state called status thymicolymphaticus.

Back in 1614, Felix Plater described the presence of a large thymus gland in a case of sudden death, and in 1830, Kopp first attributed sudden death to the pressure of an enlarged thymus.

Many workers have described the relative hypoplasia of the adrenals, which accompanies the hyperplasia of the lymphatic system in these cases.

In 1914, Cannon demonstrated the relationship of diminished epinephrin production to the blood sugar level, and the consequent inability of muscles to withstand fatigue.

In 1917, Symmers first suggested an allergic basis for the symptoms. He thought that the body might be sensitized to the nucleoproteins of the disintegrating lymph follicles.

In 1928, Zeek reported two "thymic deaths" as due to rupture of hypoplastic cerebral arteries.

In 1932, Boyd reported an exhaustive study of the size and weight of the thymus, with the opinion that there was a great variation normally and that the size always decreased rapidly before death, in the presence of any illness of more than twenty-four hours duration.

Rowntree reports no increased susceptibility to shock in rats receiving continuous injection of thymic extracts, although these rats showed marked structural changes.

Greenthal reports no thymic deaths in 2,000 surgical anesthetics where all cases showing any increased thymic shadows were treated by x-ray before operation.

On the other hand, a study of 31,163 tonsillectomies at the New York Eye and Ear Infirmary, showed only three deaths which could be classified as "thymic deaths."

Nesbit suggests a diminished parathyroid function in these cases, with a consequent fall in serum calcium levels. He thinks radiation may benefit through increasing the calcium level.

The above are only a few of the thousands of conflicting observations upon this subject in our current literature. Time does not permit a fuller review.

At present I am more impressed by the work which suggests an allergic state in these cases.

Tumpeer (1934) found enlarged thymic shadows in 158 of 183 so-called allergic children.

Waldbott studied thirty children who had previously been treated by radiation for enlarged thymic shadows. He found twenty-five of these children to be allergic as indicated by skin testing.

He also reported evidence of an allergic shock reaction from nonprotein substances administered otherwise than by injection. These included reactions to ether and to local anesthetics.

Finally he compared the pathological findings in so-called thymic deaths, sudden deaths from asthma, and deaths from anaphylactic shock. The three groups showed the same characteristics with regard to the lymphoid tissues and the adrenals. He felt, however, that the primary pathological change was in the lungs. These showed edema, petechial hemorrhages, capillary dilatation and eosinophilia, with some organization, or even early necrosis in cases which lived long enough. He felt that the edema was the primary pathology with death resulting from asphyxia.

In Dr. Wyatt's cases, the familial tendency, the repeated mild attacks before death, the relative lack of response to radiation, the temporary benefit of adrenalin, the resemblance of many of the symptoms to those of anaphylactic shock, and the findings of edema of the lung tissue, all suggest an allergic shock reaction.

It appears to me that the states of status thymicolymphaticus, allergy, hypoadrenal function, may all be different manifestations of a common basic cellular pathology, the cause of which is still unknown.

---

#### FORTY DOCTORS ON FAIR STAFF

When the World's Fair opens next April a staff of forty physicians and seventy nurses will be on hand to administer first aid, Dr. Joseph C. Hoguet, director of the medical department of the World's Fair, discloses.

A special x-ray mounted on a truck will be ready for any emergency. Equipped with a darkroom, the automobile will answer calls from any of the eight first-aid stations.

In addition, the medical unit is planning to have a speed boat, fully equipped with hospital and surgical instruments, to be used in such emergencies as drowning or gas asphyxiation. Several obstetricians will be on the staff to be ready for the dozen or more births expected during the six months' period.

Besides the visitors, the medical staff will have to take care of a permanent body of about 50,000 fair employees.

---

Mt. Sinai Hospital offers an eight-week's advanced course in neuro-ophthalmology from February 6 to March 31. Details on application.

---

Doctor (inquiring after boy who has swallowed a half dollar) "How is the boy today, nurse?" Nurse "No change yet, doctor."—*Firfax*

## "GET THEM BACK"—

### Surgical Lessons from the War

CONDUCT W. CUTLER, JR., M. D., The Roosevelt Hospital New York City

**T**WENTY years ago the war to end war came to its abrupt conclusion. No one could have been happier to see it finished than the surgeons and nurses whose lives, for two years, had been lived in an atmosphere of human misery which they had tried—how often ineffectively—to alleviate. War to them could mean but one thing—human wreckage. Peace brought a cessation of injury, but for many long months the battle for life and health still went on in the hospital wards. Even today, it is still going on for some of the wounded—twenty years after.

How often we have heard it, in these intervening years, that familiar exclamation: 'What a wonderful experience it must have been for you to be a doctor in the war!' We have learned to agree pleasantly with this observation. For though we know all too well, we cannot convey to one who has not shared it what that experience really meant. Professionally speaking, our experience was dearly bought, and hardly worth the price we and our patients paid for it.

Perhaps it may be well to try to evaluate that experience, from the professional aspect solely, looking back through the years of civilian practice with an appraising eye. What did we learn in those bitter days? How much have we kept and valued for the better application of our art to the problem of healing in a community at peace?

From the point of view of one who was ordered as a Casual Officer to fill a place in the Roosevelt Mackey Unit—Base Hospital 15—, who was side tracked to the front where the need was greater and who served with a combat division, in many capacities, for some months before reaching the original destination, it is possible to give a brief cross section

of surgical service to the wounded from its crude beginnings to its termination.

It is a gray, wet dawn in the trenches of the front line. The flame and crash of the barrage is spreading forward across the enemy wire. Poised and ready, the men are waiting for the whistle that will send them over the top. The medical officer is there. His men know what they will have to do. He knows the objectives of the attack in his sector, and something of the terrain, the lay of the trenches, roads, and paths. Perhaps at the jumping-off place, perhaps somewhere out in the fields or woods ahead, still in enemy hands, he must find a spot accessible to the wounded, yet providing them some shelter. A dugout, the cellar of a ruined house, the lee of an embankment, perhaps only a shell crater must serve his purpose. There, as the attack sweeps forward, his first aid station is set up and marked. And now the wreckage of the attack drifts back to him. The wounded come, some walking singly, some in pairs, helping one another, some carried on the backs of comrades or by prisoners, a few on stretchers manned by sanitary corps men or by bandsmen whose duty now is quite different from that on parade.

Faced with every type of injury that gas, shrapnel, high-explosive shell, rifle bullet, machine gun bullet, rifle butt, and bayonet can produce, what can the surgeon and his handful of men accomplish for the aid of the wounded? Very little to be sure, especially if the casualties be heavy and the work is hampered by shelling, gas, mud, and rain. But he can and must get them back, back to

relative safety and to better care than he can give now. A crude dressing here, an improvised splint there, a tourniquet for this one, morphine for that, tetanus antitoxin if it holds out. Then a tag, hastily scrawled and attached to a button. But always—get them back. Some can still walk or be helped to a communication trench or road, some must be carried. Some must stay where they are, sheltered as best they can be, and eased when opportunity affords. Some of them will not need to be moved. The burial squad will take care of them later.

Back at the road, better shelter may be found, possibly another dressing station, but here, still, the slogan is "Get them back." A dressing renewed, a tourniquet eased, antitoxin or morphine administered, a splint readjusted, perhaps the luxury of a cigarette until the ambulance can get through.

But the ambulance company, under its surgeon commander, has but one purpose and one idea—get them back. Over shell torn roads, often hardly passable, after dark, usually, and without lights, the faithful creaking Fords jounce and sway and rattle, carrying their loads of wounded. Some sit on the tail-board, holding on precariously, others lie on the floor or on the stretchers in their racks against the sides. Speed is the watchword, not comfort, for there are many to evacuate, and all night long the drivers must slam their cars back and forth over these roads with troops and guns and ammunition moving up along them, giving them no right of way. The wounded must get back.

Some kilometers back, the ambulances drop their loads. Perhaps it is at a divisional field hospital housed in huts, or Bessoneau tents, or possibly in an abandoned château. Such a hospital moves with its division, locating where it can. Its trucks stand somewhere nearby. It may be here to day and gone tomorrow, but now it is prepared for the business in hand. Probably here there will be cots, certainly blankets, a hot drink for those who may be given it, a respite of rest. Here, too, there are

surgeons, an improvised operating room. One or more of the mobile operating units may give it additional capacity for the care of the wounded.

Now one can begin to consider a little such problems as the combating of shock, the replenishment of depleted body fluids, the nature of the wounds and their demand for immediate surgical intervention. Here, dressings and clothing can be removed, a little cleaning up done, and wounds appraised. The less seriously wounded, their pain eased, may sleep a little in their exhaustion.

But, as the wounded keep pouring in from the hurrying ambulances, there is not much time for refinements of care. The operating rooms, lit by flaring lamps, will run all night, perhaps all day. Débridement of compound fractures and the application of Thomas splints. Amputation sometimes. Exploration of abdominal wounds and repair of visceral injuries. Exploration of head wounds and the elevation of bone fragments and extraction of metal. Closure of chest wounds. Débridement of the worst soft part wounds. These are the operating room activities, repeated over and over again. Always more wounded await their turn, driving the surgeons on hour after hour. And meanwhile, among the cots, there are dressings and still more dressings to be done. There may be nurses here, probably not.

Or, instead of at a divisional field hospital, the ambulances may have discharged their loads at an evacuation hospital, located more or less permanently at some convenient crossroads, not too far from the front. Here, because of its greater permanence of locale, housed in a cluster of wooden buildings designed and erected for the purpose, the facilities for handling a peak load of wounded may be somewhat more elaborate than in the wandering field hospital. But the nature of the work is much the same, and here the wounded may be dressed and operated upon by the operating teams much as in the field hospital.

In either hospital of this type, as the wounded pour in, each bringing its

special problem of treatment, driving the staff to the limit of their physical endurance, we learn anew, and of necessity, the lessons of serious acute traumatic surgery. We learn the need of combating hemorrhage and shock, and come to appreciate, as never before, the values of infusions and of transfusions—though the facilities for the latter are much less than we could wish under these circumstances. We learn that injured and exhausted men will survive much better the ordeal of operation, even though their wounds seem urgent, if given a few hours of rest and relief from pain beforehand. We learn the need of the radical surgical cleansing of wounds of all dirt, clothing, metal, bone fragments, and devitalized tissue, even though the débridement may be mutilating. Life itself may hang upon an apparent ruthlessness, and may be lost for the lack of it. We learn the necessity of early closure of chest wounds, of early exploration and repair within the penetrated abdomen, of the dreadful urgency of spreading gas gangrene. We learn the destructive effect of transportation without adequate splinting of compound fractures. And, guided by these stern lessons, our help to the wounded becomes by degrees, more intelligent and more effective. We of Base 15 know all this well, for our own unit served as an evacuation hospital during the offensive in the Argonne.

But the journey of the wounded is not yet done. A field hospital must maintain its mobility and cannot harbor patients for long. An evacuation hospital must always make room for fresh influx of wounded and must not remain filled. Its very name indicates its purpose—to get them back. So day by day, for some of the wounded, the weary pilgrimage to the rear goes on. Sometimes by ambulance, some times by hospital train, they are moved back to the base hospitals, their immediate problems having been dealt with as well as could be done in the feverish haste of the advance zone. At last, they will be away from the unceas-

ing thunder of the front, from the menace of gas and of air raids. But the stream that flows back has thinned out a little. The slightly wounded have returned to their regiments or have been sent to convalescent camps. Sepsis, pneumonia, hemorrhage, peritonitis, too, have taken their toll all along the way. And yet the receiving base hospitals are filled and stretcher bearers, surgeons, and nurses must work night and day when the trains come in.

But here, at the base hospital, for all the overwork, there is still time for nursing care to bring comfort and ease. Problems of treatment may be reviewed, laboratory and x-ray work brought to the patients aid, fractures reset and arranged with traction and suspension, overlooked metal fragments removed, repair of tissue damage begun and the slow business of healing and recuperation promoted by careful dressings and medical care. We learn what may be accomplished in fractures by the proper application of the principles of suspension and skeletal traction, as we spend long hours in the wards forested with Balkan frames. We learn how sloughs will separate and wounds grow clean, healthy, and relatively free of bacteria under the conscientious application of the Carrel-Dakin treatment, and can even make secondary closures of many of them and see them completely heal. We learn by observation, and to our amazement, that long neglected wounds, badly contaminated and swarming with maggots will appear more healthy and heal more kindly than similar wounds not thus infested. We even attempt some plastic surgery to restore to a degree of usefulness extremities crippled by injury, and to bring some semblance of order out of the chaos of damaged features.

When all that we can do has been done, our wounded leave us, some to return eagerly to duty, others regretfully to continue their long journey home, incapacitated for further fighting. For these, the war is over. For many, their days of active life are over too. But, as the convalescents leave, other trainloads

arrive to take their places, and the work goes on and on. Such are the experiences of war-time surgery.

What did we bring back from all of this? Not much, it must be admitted, that would add greatly to our skill and knowledge in civil practice, a good deal, perhaps, in familiarity with the problems of traumatic surgery. Into our interrupted practices and to our hospitals, we brought back from war days the principles of the management of patients in shock, of the débridement of lacerated, contaminated wounds, of the application of the Carrel-Dakin treatment, of the maggot treatment of suppurating wounds and osteomyelitis, of the uses of suspension and skeletal traction in the management of fractures, of the rudiments of plastic surgery. With these and other lessons learned we have been better equipped to serve the rarer injuries of civil practice that require them. Some of the things we were taught in the hard school of war experience have been superseded by better

methods in the twenty intervening years, some have gone on to development and improvement, some are falling into disuse, but they served our need in their time. The science of surgery must advance, but one thing our experience has taught us, if no other—that warfare is not the best way to advance it.

We have forgotten, happily perhaps, much that happened twenty years ago, but one bright memory remains with all of us who spent our days and nights in work with the wounded. It is the recollection of the bravery and fortitude and spirit of the American citizen soldier, shown not alone on the field of action, but in the long tedious battle for life and health fought out hour by hour and day after day through the ordeals of injuries, operations, and dressings. Often, we rejoiced in his victorious recovery, sometimes we mourned his defeat, but whether winning or losing his fight, his courage never failed. This, at least, we cannot forget.

#### HALF THE "DIABETICS" CALLED "JUST FATTIES"

A press dispatch from Winnipeg reports that Professor L. H. Newburgh, of the University of Michigan, told the Manitoba Medical Association's annual convention that fifty per cent of the persons diagnosed as suffering from diabetes are "just gluttons, only they won't admit it."

"According to life insurance statistics," he continued, "there are 2,000,000 middle-aged obese individuals in the United States with diabetic symptoms."

"They're not diabetics at all, they're just fatties," he added.

He recommended a milk, vegetable, and fruit diet, and declared the "meat eating fallacy" started in Germany years ago, when a German concluded the way to be strong and healthy was to eat meat.

"The result was the Germans thought they could lick the world if they built their diet around meat, and that idea was absorbed by other countries."

#### "THROW AWAY" MAIL

In addition to "throw away" journals there is much "throw away" mail that comes to a physician's or dentist's desk, remarks the *American Journal of Medical Jurisprudence*. "Throw away" is what this mail deserves. Drugs, books, pills, equipment, shirts, socks, and more pills and ointment, sales copy, as well as samples, clutter the professional man's mail. Rightly, all this junk reaches its proper destiny, the waste basket, unopened. Secretaries rightly

direct such consignment and conserve the time of their employers, as well as relieving the doctor of this modern mail annoyance.

Some communities have ordinances prohibiting doorstep distributing of circulars and samples. Hail to the federal legislator who obtains the passage of a law prohibiting promiscuous mail circularization until a permit is obtained and control is exercised over this nuisance.

## Special Article

### OUTLINE OF TREATMENT FOR SYPHILIS

Methods and Technic Followed in the  
Department of Dermatology of the Vanderbilt Clinic  
Part II of a series

A BENSON CANNON, M D , New York City

#### Table of Contents

|  | Page |
|--|------|
| The Administration of Arsphenamine                     | 145  |
| Instructions for Patient                               | 146  |
| Preparation of Drug                                    | 146  |
| Equipment for Intravenous Injection                    | 146  |
| Preparation of Patient                                 | 147  |
| Technic of Intravenous Injection                       | 147  |
| Reactions to Arsphenamine                              | 148  |
| Prevention of Reactions to Arsphenamine                | 149  |
| Treatment of Reactions to Arsphenamine                 | 150  |
| Silver Arsphenamine                                    | 151  |
| Preparation of Drug and Technic of Injection           | 151  |
| Reactions to Silver Arsphenamine                       | 151  |
| Dosage Preferred and Alternate Plans                   | 152  |
| The Administration of Bismuth and Mercury Preparations | 152  |
| Drugs and Dosage                                       | 152  |
| Technic of Intramuscular Injection                     | 153  |
| Complications Due to Bismuth and Mercury               | 154  |

#### The Administration of Arsphenamine Preparation of Patient and Drug, Technic of Injection

Of all antisyphilitic remedies so far tried old arsphenamine is generally acknowledged by syphilologists to be the most active of those tolerated in therapeutic doses. Its universal adoption has been delayed chiefly by the lack of a safe and simple technic of administration. In the early experimental period it was given subcutaneously and intramuscularly, but on account of the severe pain and local necrosis which it caused, these methods were soon abandoned in favor of the intravenous route. Until recently the

use of old arsphenamine has been practically limited to the larger clinics, because of technical difficulties involved in its preparation and administration. The original acid solution is highly toxic and must be alkalinized before injection. This alkalinized solution is unstable and so far no satisfactory method has been devised for preparing it in advance for commercial distribution. Furthermore, the high dilutions generally advocated necessitate the setting up of a gravity apparatus. These combined difficulties have led the general practitioner to fall back on preparations which are easier to administer, such as neoarsphenamine



despite the fact that this, like other substitutes, is relatively inactive in small doses, and too toxic in doses high enough to be therapeutically active

A simplified technic has now been devised whereby the principal drawbacks to the administration of old arsphenamine have been overcome. The tedious and uncertain method formerly in use, of alkalizing the acid arsphenamine solution with sodium hydroxide solution prepared in bulk and added drop by drop, has been replaced by the introduction of arsphenamine in ampules of different sizes, each accompanied by an ampule of sodium hydroxide solution of the exact strength required to alkalize the corresponding dose of arsphenamine. In place of the old cumbersome gravity apparatus, the syringe may be used to administer the drug provided certain simple precautions are observed.

A three-year trial of this method at the Vanderbilt Clinic, in the treatment of all forms of syphilis including syphilis in infants and children, has proved it to be almost as simple as the technic used in the administration of neoarsphenamine or silver arsphenamine. It is particularly useful in private practice, where ordinarily only a few cases—sometimes not more than one or two—are treated at a time. It is believed that this method will make available to the general practitioner a rational treatment plan hitherto practicable only in the larger clinics and in the office of the specialist. For details of the method, see section entitled "Preparation of Drug and Technic of Injection."

*Instructions for Patient*—Give the patient the following written instructions in advance

- 1 Take a mild cathartic the night before the injection (cascara or milk of magnesia)
- 2 Take no food for four hours before the injection, except a cup of tea or coffee or a glass of milk, and a slice of dry toast
- 3 Take no food for five hours after the injection, then a cup of tea or

coffee or a glass of milk, with dry toast or saltine crackers

- 4 Rest for fifteen to thirty minutes after each injection

#### *Preparation of Drug*—

- 1 Pour sterile distilled water at room temperature into sterile Erlenmeyer flask, 5 to 10 cc for each decigram of the drug. Children tolerate easily down to 5 cc per decigram
- 2 Use old arsphenamine marketed in ampules of different sizes, each accompanied by an ampule of sodium hydroxide solution of the exact strength required to alkalize the corresponding dose of arsphenamine \*
- 3 Immerse ampules of arsphenamine in alcohol to detect cracks. Do not use if the ampule is cracked, or if the powder is off-color (it should be pale yellow or lemon-colored)
- 4 Dissolve the arsphenamine by sprinkling the powder on surface of water. Avoid lumps, as they will not dissolve easily
- 5 Allow the solution to clear, be sure there are no gelatinous masses
- 6 Alkalize the solution by adding the correct amount of sodium hydroxide from ampule packed with the corresponding dose of arsphenamine.
- 7 Rotate the flask gently, allow to stand until flocculation has cleared—at least 15 minutes, up to two hours at room temperature covered will do no harm
- 8 Test for alkalinity with litmus paper, if red litmus turns blue, the solution is ready to inject

#### *Equipment for Intravenous Injection*—

Use a 20- to 23-gage Fordyce needle with corrugated wing, and an all-glass syringe. The needle may be attached to the syringe, or may be entered first into vein and the syringe then attached. It is better to use an adapter, even when not strictly necessary, as the adapter will protect the nozzle of the syringe against

\* If not obtainable locally, they may be ordered from Dermatological Research Laboratories, 1720 Lombard Street, Philadelphia, Pa

chipping or breaking. If a syringe of more than 20 cc capacity is used, or if the syringe and the needle do not fit perfectly an adapter will be necessary. Needles should be sharpened smooth and both needle and syringe sterilized by boiling. After filling syringe with arsphenamine solution, be sure to expel air from syringe, in order to avoid danger of embolism.



Figure 1. Technic of intravenous injection: tourniquet applied; operator's left hand steady; patient's forearm extended; right hand holding needle and syringe ready to enter vein.

**Preparation of Patient**—With the patient lying down, expose his arm, fully extended. Tie a rubber tourniquet well above the elbow, making it tight enough to stop the venous circulation but not so tight as to obstruct the arterial flow. Point the ends of the tourniquet up the arm, out of the field of operation. The tourniquet should be removed just before the injection is started. Any vein in the anterior cubital region may be used for the injection. To make the veins stand out a hot towel may be applied, or the vein slapped, or the patient is told to clench and open his fist several times. Clean the skin over the vein with cotton moistened in alcohol.

**Technic of Intravenous Injection**—With the left hand steadying the patient's forearm, and with the right hand holding the needle in line with the vein and nearly parallel to the surface, dip the point slightly (bevel edge up), thrust the needle quickly through the skin and venous

wall, and then straighten and advance it 1 to 2 cm within the lumen of the vessel, in the direction of the venous flow. One can usually tell when the needle is in the vein by the flow of blood from the needle, or, if attached to a syringe, by the appearance of blood therein. If a small gauge needle and small syringe are used, it may be necessary to aspirate by drawing back slightly on the piston before blood will appear. With a needle of larger caliber, blood usually flows out spontaneously.

If the operator distrusts his technic and wishes to take additional precautions against paravenous infiltration of the arsphenamine, he may have at hand an extra syringe containing warm sterile water or physiologic saline, from which he injects a few cc after the needle is in place. If infiltration occurs, no harm is done, and another site can be tried, if no signs of infiltration appear, the syringe is replaced by another containing the ars-

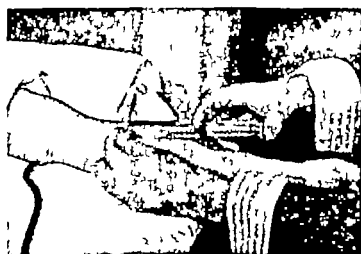


Figure 2. Technic of intravenous injection: tourniquet off; needle in vein held steady by corrugated wing; slight show of blood in syringe; injection proceeding slowly.

phenamine solution and replaced in the needle. During these manipulations, care must be taken not to displace the needle in the vein.

Inject the solution slowly—not more than 10 cc. and preferably not more than 5 cc per minute. Watch the patient for flushing of the face and other signs of unfavorable reaction. When the injection

has been completed and the needle withdrawn, have the patient press down over the site of injection for several minutes with a cotton or gauze swab dipped in alcohol, and then cover it with adhesive tape. It is better to use alternate arms for subsequent injections. If patient complains of pain or discomfort at point of the needle or up the course of the vein after the arsphenamine injection is begun, remove the needle, even if no local swelling or infiltration can be detected, and reinsert it in another vein. If an infiltration is present, or if there is pain up the arm, massage the area at and around the puncture wound deeply and thoroughly for five or ten minutes, and then apply hot compresses to the arm for about half an hour. This treatment will usually prevent necrosis and will greatly minimize the subsequent discomfort and local redness. The hot compresses may be continued four or five times a day if necessary, and if local redness and swelling do take place, a thick dressing of ichthyol ointment may be applied between hot applications. Thorough massage at the time the infiltration occurs is the best remedy of all.

If the arm veins are difficult to enter, any other vein (including varicosities) may be used. In difficult cases, or in areas sensitive to puncture, it is well to spray the skin with ethyl chloride to deaden the superficial nerve endings, before attempting entry. In treating children whose arm veins are difficult to enter, one may use ankle, jugular, or scalp veins. In the latter case, place a rubber tourniquet around the base of the skull to make the veins stand out.

#### *Reactions to Arsphenamine*—IMMEDIATE AND EARLY (SLIGHTLY DELAYED) REACTIONS

1 Nitritoid crisis and mild vasomotor and anaphylactoid reactions. These are due chiefly to too rapid administration of the drug. They occur during or immediately after the injection.

2 General malaise, headache, nausea, vomiting, and diarrhea. These reactions are usually due to dietary indiscretions of the patient. When accompanied by chills and fever, they may be the "tubing reac-

tion" or may be due to contamination from impurities in the water or to faulty technic. They occur within twenty-four hours after the injection.

3 Mild and transitory skin eruptions. Urticaria, scarlatiniform, and morbilliform rashes. Some rashes are possibly due to the reactivation of latent infections by the drug. They usually occur within twenty-four to forty-eight hours after the injection. Urticaria may occur during the injection, with or without other symptoms.

4 Herxheimer's reaction. A flare-up of syphilitic lesions following the first injection of an arsphenamine, especially serious in cardiovascular syphilis. Occasionally, meningeal symptoms and cranial nerve palsies occur in patients with early subthreshold involvement of the nervous system.

5 Pain in the chest and back, cough, pallor, collapse, and cardiac failure. These are due to the injection of a concentrated solution of unneutralized (acid) arsphenamine. "Doctor or attendant mistook it for neoarsphenamine."

#### DELAYED REACTIONS

1 Skin (exfoliative dermatitis). Generalized, vesicular, exudative dermatitis, frequently associated with grave constitutional symptoms, and characterized by scaling and extensive exfoliation in the later stages. It is usually preceded and accompanied by intense itching. It is caused by idiosyncrasy to arsenic compounds and undue retention of arsenic in the system. Its occurrence bears no relation to the number of injections.

2 Liver (jaundice). Varies from mild hepatitis resembling catarrhal jaundice to acute yellow atrophy, the latter usually fatal. It is probably due to retention of arsenic, superimposed on damage by syphilis and/or intercurrent infection. It may occur as late as several months after the last arsphenamine injection.

3 Kidney (nephritis). The usual clinical manifestations, with albuminuria and, occasionally, hematuria. It is more marked when mercury or bismuth is used concurrently with arsphenamine. It is rarely caused by arsphenamine alone, but

when it is, it is far more likely to occur as a complication of dermatitis, jaundice, or neuritis. It should not be confused with syphilitic nephritis, which clears miraculously under specific treatment.

4 **Nervous system.** Peripheral neuritis, ranging from mild forms (numbness, tingling, paresthesias) to severe forms followed by muscular atrophy, hemorrhagic encephalitis, which is comparatively rare in the United States and is more likely to occur after neoarsphenamine or sulfarsphenamine in high dosage.

5 **Blood dyscrasias.** Aplastic anemia, agranulocytic angina, usually with stomatitis of varying degrees, and purpura hemorrhagica. These are comparatively rare, but serious and sometimes fatal.

**Prevention of Reactions to Arsphenamine.**—Most reactions are preventable, being due to faulty technic, inadequate preparation of the patient, too high dosage, too abrupt initiation of arsphenamine therapy especially in the later stages of syphilis, or to neglect of warning symptoms.

1 **Technic.** Give careful attention to details of preparation of drug and apparatus, avoid paravenous infiltration, inject solutions *slowly*, and in adequate dilution.

2 **Preparation of patient.** If possible, give written or printed instructions in advance, as outlined on page 146 and inquire before injection whether instructions have been followed. In case the patient is known to be a reactor, inquire for special symptoms following the last injection. If the patient was previously treated elsewhere, inquire carefully for any history of reactions to treatment, if possible get the record from physician or clinic where the patient was last treated for syphilis.

3 **Dosage.** Do not attempt to sterilize the patient with a single dose of arsphenamine. Begin the course with the minimum dose and increase gradually to the maximum. If a reaction occurs, reduce the next dose slightly. If the patient lapses before the course is completed, start again on reduced dosage when the course is resumed, and increase as before.

4 **Age of patient and stage of disease.** Do not give arsphenamine to persons over fifty years of age unless the clinical symptoms require it and the general physical condition permits it. In these and in all cases of late syphilis in which arsphenamine is indicated, give preliminary injections of mercury or bismuth before beginning the arsphenamine course in order to avoid therapeutic shock to vital structures.

5 **Observe special precautions in treating pregnant women, and note dosage for infants and children** (see "Treatment Schedule," under these headings). See also **Modifications of Routine Treatment for Special Types of Cases.**

6 **Heed warning symptoms (a) Nitritoid Crisis.** On appearance of early symptoms (flushing of face, suffusion of eyes, slightly labored breathing), stop the flow of arsphenamine and wait for the symptoms to subside. Resume injection after five minutes if the symptoms have subsided, and give still more slowly until the injection is completed. A confirmed reactor should be given 10 cc. of calcium intravenously just before the syringe is attached for the arsphenamine injection, or else adrenalin (10 minims) subcutaneously, or ephedrine (1 cc.) intramuscularly 10–15 minutes before the arsphenamine injection. Smelling salts are sometimes effective. It is well to check the blood pressure before giving adrenalin to obese patients.

(b) **Skin.** Inquire of the patient before each injection whether he had a skin rash or any other untoward effects following the previous injection. If any of the mild skin eruptions have occurred—urticarial, scarlatiniform, morbilliform, or slightly dry, red, scaly patches—skip one injection and then resume treatment on slightly reduced dosage, giving sodium thiosulfate between arsphenamine injections. These rashes are not a contra-indication to further treatment, but call for caution. Any suggestion of a moist, swollen exudative dermatitis indicates a true idiosyncrasy to arsphenamine and calls for immediate cessation of treatment.

(c) **Liver.** Jaundice is usually preceded

by anorexia, nausea and vomiting. Palpate for enlarged liver and take blood for bile index (above 15 is suspicious). Look for jaundiced urine when urine is shaken in test tube the foam is icteric. In colored patients especially, watch for icteric sclerae. Discontinue arsphenamine temporarily in the presence of other symptoms without waiting for clinical jaundice to appear.

(d) Kidney. Make frequent urinalyses (every one or two weeks). If a heavy trace of albumin is found, stop all treatment and give sodium thiosulfate. Use mercury and bismuth preparations with caution in patients with a history of renal symptoms.

(e) Nervous system. Moderate dosage, alternating of arsphenamine with bismuth or mercury courses, and avoidance of neoarsphenamine and sulfarsphenamine will avert a majority of accidents to the nervous system. If minor symptoms appear, discontinue arsphenamine temporarily and give mercury or bismuth, with iodides. Do not begin arsphenamine without preliminary injections of mercury or bismuth if there is any reason to suspect early involvement of the nervous system, in order to avoid Herxheimer's reaction.

(f) Blood dyscrasias. Take blood counts at frequent intervals (a complete blood count once a month). Eliminate foci of infection, especially in the mouth. Note any history of hemorrhagic diathesis in the patient or his family. A consistently falling leukocyte count, even if still within the lower limits of "normal" should be looked upon with suspicion, especially if there is a disproportionate fall in the number of polymorphonuclear cells. A total white count of 3,000 or less, with both absolute and relative decrease in the granular leukocytes, calls for prompt cessation of all treatment. Endeavor to eliminate arsenic by injections of calcium or sodium thiosulfate, force fluids, and proceed as in heavy metal intoxication. This technic is designed to prevent agranulocytosis. The red cell count is rarely if ever affected enough to require cessation of arsphenamine treatment.

More often than not, arsphenamine, if given in small to moderate doses, will stimulate erythrocyte production and hemoglobin.

*Treatment of Reactions to Arsphenamine*—(a) Nitritoid crisis. For a true nitritoid reaction subcutaneous injection of adrenalin (10 minims) is usually recommended, but I have found the best remedy for the milder reactions to consist in lowering the patient's head and having him alternately take repeated long breaths and hold his breath. Smelling salts also help. If the reaction is severe, and the patient unconscious and pulseless, give adrenalin intravenously (5 to 10 minims) and keep the patient warm with a blanket and hot-water bottle, as in treatment of shock.

(b) Exfoliative dermatitis. At the first signs of an eruption of the exudative type, stop all treatment and aid elimination of arsenic by giving calcium or sodium thiosulfate, both intravenously (daily injections) and by mouth. Have the patient rest in bed, force fluids, and give a saline laxative daily. For local treatment in the exudative stage, dust cornstarch powder over the skin. When exfoliation begins, apply boric acid ointment or some other oily preparation. Continuous cornstarch baths may be given, or the patient may take a bath every few days. If the patient shows signs of dehydration, glucose injections may be given, either intravenously or by hypodermoclysis. A patient who has once had a true exfoliative dermatitis is rarely able to tolerate further arsphenamine treatment, but it is permissible to try, after an interval of six months or more, giving 0.05 Gm of a different arsphenamine preparation (silver arsphenamine is usually well tolerated). This is a more reliable guide to further treatment than either the patch or the intradermal skin tests.

(c) Jaundice. Stop all treatment and put the patient on a fat-free diet, giving especially fruits and sour foods (sauerkraut, buttermilk). Hasten the elimination of arsenic by the methods suggested for dermatitis. Do not resume arsphen-

amine for at least six months after the jaundice has cleared, and then only in small doses at weekly intervals. Heavy metals and the iodides may be given after the jaundice has cleared and until arsphenamine is begun. The bile index should be taken weekly, on both blood and urine, during arsphenamine courses, in order to prevent a recurrence of the hepatitis.

(d) Nephritis Stop all treatment and give calcium or sodium thiosulfate.

(e) Neuritis Stop all treatment. Use massage, hot baths, and baking with electric heaters. Aid the elimination of arsenic as in dermatitis or jaundice.

(f) Blood dyscrasias No cure is known for conditions resulting from the serious damage to the blood forming apparatus caused by arsphenamine. The best treatment is prevention. See measures described under this heading.

### Silver Arsphenamine

Occasionally it becomes necessary to replace old arsphenamine with a substitute, either because the patient has shown himself intolerant to old arsphenamine, or because the Wassermann proves unusually resistant and a drug-fastness is suspected. In such cases I have found silver arsphenamine to be the drug of choice.

Silver arsphenamine is marketed in the form of a dark brown powder, freely soluble in water and alkaline in reaction. It contains approximately 19 per cent arsenic and 12 to 14 per cent silver. It is administered intravenously, usually by syringe, but may be given by gravity.

*Preparation of Drug and Technic of Injection —*

- 1 Break the ampule in the usual way and dissolve the powder in sterile distilled water at room temperature, 10 cc. to 1 decigram of the drug (children tolerate down to 5 cc.)
- 2 Observe the same precautions as in the preparation of old arsphen

amine, except that alkalinization is omitted. Sprinkle (do not dump) the powder on the surface of the water, and allow the solution to clear. The flask may be rotated gently to hasten solution, but do not shake.

- 3 The solution should be used within 20 minutes, as it deteriorates on exposure to carbon dioxide.
- 4 Do not inject unless the solution is clear, like black coffee.

Silver arsphenamine has one disadvantage, in that the dark color of the solution makes it difficult to distinguish the presence of blood when aspirated into the syringe. There are several ways in which the operator may verify the position of the needle in the vein and avoid a paravenous infiltration.

- (a) He may perform the venipuncture before attaching the syringe.
- (b) He may puncture with the syringe attached, and if difficulty is encountered, detach the syringe and allow the blood to flow out from the needle.
- (c) He may have at hand an extra syringe containing a solution of physiologic saline into which he aspirates for blood, as soon as blood is obtained, substitute the syringe containing the silver arsphenamine solution to be injected.
- (d) He may puncture with attached syringe containing a few cc. of physiologic saline, aspirate for blood into this, then detach, fill same syringe with silver arsphenamine solution, and replace in needle.

*Reactions to Silver Arsphenamine —*We have found reactions after silver arsphenamine to be less numerous and less severe than after either old or neoarsphenamine. Argynia sometimes develops, however, especially in elderly patients if the drug is continued over long periods. Hence the total dosage should not exceed eight grams.

# DOSAGE SCHEDULE FOR SILVER ARSPHENAMINE

| DOSE                | FOR PREFERRED OR<br>'3-2" PLAN |                        | FOR ALTERNATE OR<br>2-1" PLAN |                        |
|---------------------|--------------------------------|------------------------|-------------------------------|------------------------|
|                     | Dosage<br>for<br>Men           | Dosage<br>for<br>Women | Dosage<br>for<br>Men          | Dosage<br>for<br>Women |
| 1st                 | 0 15 Gm.                       | 0 1 Gm.                | 0 15 Gm.                      | 0 1 Gm.                |
| 2nd                 | 0 15 Gm.                       | 0 1 Gm.                | 0 2 Gm.                       | 0 15 Gm.               |
| 3rd                 | 0 2 Gm.                        | 0 15 Gm.               | 0 25 Gm.                      | 0 15 Gm.               |
| 4th                 | 0 25 Gm.                       | 0 2 Gm.                | 0 25 Gm.                      | 0 2 Gm.                |
| 5th                 | 0 25 Gm.                       | 0 2 Gm.                | 0 3 Gm.                       | 0 2 Gm.                |
| 6th                 | 0 25 Gm.                       | 0 2 Gm.                | 0 3 Gm.                       | 0 25 Gm.               |
| 7th                 | 0 3 Gm.                        | 0 25 Gm.               | 0 3 Gm.                       | 0 25 Gm.               |
| 8th                 | 0 3 Gm.                        | 0 25 Gm.               | 0 3 Gm.                       | 0 25 Gm.               |
| 9th                 | 0 3 Gm.                        | 0 25 Gm.               | 0 3 Gm.                       | 0 25 Gm.               |
| 10th                | 0 3 Gm.                        | 0 25 Gm.               | 0 3 Gm.                       | 0 25 Gm.               |
| Total for<br>Course | 2 45 Gm.                       | 1 95 Gm.               | 2 65 Gm.                      | 2 05 Gm.               |

For subsequent courses under either plan repeat the dosage of the first course

## The Administration of Bismuth and Mercury Preparations Drugs and Dosage, Technic of Intramuscular Injection

*Drugs and Dosage*—In view of the many preparations of bismuth and mercury on the market, and of the high-pressure sales methods employed in their distribution, it is advisable for the general practitioner to confine his choice to the relatively few products which have already received a fair trial in the larger clinics, and to watch for reports appearing from time to time in the *J. A. M. A.* on the newer products. The use of products marketed by a few reliable drug manufacturers will reduce to a minimum the chances of administering preparations of uncertain toxicity and substandard therapeutic potency. If any lot or preparation gives trouble, samples from it should be sent to the manufacturers and to the Laboratory of the National Institute of Health in Washington for testing.

**A Bismuth Preparations** The efficacy of bismuth preparations appears to be proportional to the amount of elemental bismuth which they contain. For this reason it is best to use preparations containing not less than 50 mg of elemental bismuth in 1 cc. Two of the preparations which meet this and other requirements are

1 **Bismo-Cymol (NNR)** a basic bismuth salt of campho-carboxylic acid, in solution in olive oil. The salt contains between 37 and 40 per cent of elemental bismuth, and 1 cc of the oil solution contains 50 milligrams of bismuth.

2 **Sodium Potassium Bismuth Tartrate** A suspension in olive and almond oils with butyn, each cc containing 50 milligrams of elemental bismuth.

Either of the above preparations, given in initial doses of 1 cc, increased after a few injections to 2 cc, will give the patient a total of approximately 1,350 mg of elemental bismuth per course of 15 injections.

**B Mercury Preparations** The soluble mercurials act more promptly than the insoluble ones but are eliminated so rapidly that injections must be given daily or at most every other day, while with insoluble compounds suspended in oil, one or two injections a week will suffice. The preparations recommended here are

1 **Mercury Salicylate**, insoluble, containing about 55 per cent of mercury, suspended in a vegetable oil. The initial dose is  $\frac{3}{4}$  grain, which comes prepared in a 1 cc ampule, this dose is increased to 1 grain and later to  $1\frac{1}{2}$  grains (some patients will tolerate 2 grains). This gives the patient about 18 grains of the mercury salt per course of fifteen injections.

2 **Mercury Bichloride**, water soluble, containing about 73 per cent of mercury.

3 **Mercury Succinimide**, water soluble, containing about 50 per cent of mercury.

The dosage for either soluble preparation is  $\frac{1}{6}$  grain increased to  $\frac{1}{4}$  grain. At least five times as many injections of the soluble preparations would be required in order to provide the equivalent of a fifteen-injection course of the insoluble salicylate.

**Mercury Rubs** Mercury may be given byunction, in the form of blue ointment, put up in cascadelets, one cascadelet to be rubbed into one part of the body once a day after a hot bath. Rub for twenty to thirty minutes and change the site daily. Give in courses of thirty rubs.

Mercury by Mouth is less efficacious than by injection or unction but may be used in late forms of syphilis, especially for elderly persons, or for those temporarily out of reach of a physician. The following are recommended

- |                          |    |     |
|--------------------------|----|-----|
| (1) Hydrarg Chlor Corros | gr | iii |
| Potassium Iodide         | ℥  | ss  |
| Elix Lactopep q.s ad     | ℥  | vi  |

- (2) Pills each containing  $\frac{1}{16}$  grain of mercury bichloride and 5 grains of potassium iodide

One teaspoonful t.i.d. in glass of water fifteen to twenty minutes before meals  
Sometimes better tolerated with pinch of sodium bicarbonate in each dose  
One pill t.i.d. preferably dissolved in a glass of water before meals

Mercury is not recommended for intravenous injection

*Technic of Intramuscular Injection* — Bismuth and mercury preparations are injected intramuscularly into the buttock, the preferred site being at or near the center of the upper inner quadrant

gage needle about  $2\frac{1}{2}$  inches long. Holding the hub of the needle between the index finger and the thumb, with a quick wrist motion thrust the needle  $1\frac{1}{2}$  to 2 inches into the gluteal muscle. The dose to be injected is then collected in the syringe, and, while the hub of the needle is held with the index finger and the thumb, the syringe is attached and the contents injected slowly.

Without removing the syringe, wet a cotton swab with alcohol and press it down firmly beside the puncture site, withdrawing the needle at the same time. Massage



Figure 3 Sites for intramuscular injection

Other sites which may be used are, in the order of preference (1) at or near the center of the lower inner quadrant (2) the upper outer portion of the upper outer quadrant.

With patient lying face downward on table, select the site of injection and clean the part with cotton saturated with 70 per cent alcohol. Use a 19 to 20-



Figure 4 Sites for intramuscular injection showing needle in place



vigorously and deeply without moving the fingers from the spot. Then using the outer part of the palm massage so as to move the entire buttock. Now put a small piece of cotton over the puncture wound and hold it firmly in place with a  $\frac{1}{4}$ -inch strip of adhesive tape. Use alternate buttocks for subsequent injections.

**WARNING!** Before attaching the syringe, be sure to allow the needle to remain in place for 30 to 60 seconds, to determine whether or not the needle is in a blood vessel. If blood appears, withdraw the needle and puncture a short distance away. If an embolism occurs, the patient will cough and complain of pain, and chill and fever will follow. In severe cases an infarct will develop. If the infarct is large enough, a mild pneumonia will follow. Roentgen rays will usually confirm these findings.

### Complications Due to Bismuth and Mercury Their Prevention and Treatment

A patient usually tolerates the heavy metals in proportion to the cleanliness of the mouth. We advocate having the teeth cleaned by a dentist and kept clean by brushing and the use of dental floss. It is also important to begin the course of injections with small doses and increase the dosage gradually. By this means much larger amounts can be given, whereas a high initial dosage is likely to be poorly tolerated. The bowels should be

kept open and fluids taken freely throughout the course.

If the gums show signs of irritation during the treatment, massage the gums several times a day, using table salt on the end of the finger. The appearance of a blue line during a bismuth course is not a contraindication to further treatment, but calls for more careful hygiene of the mouth and a reduction in the dose for the next few injections.

If a stomatitis appears, stop treatment immediately and irrigate the mouth with hot saline (several gallons a day), paint the gums daily with a 2 per cent solution of chromic acid, and as soon as tenderness has subsided sufficiently, massage the gums. Force fluids, keep the bowels open by means of daily saline laxative, and give sodium thiosulfate as for arsenic poisoning.

**Kidney complications.** Albumin and occasional casts, and (rarely) hematuria may occur under heavy metal therapy. In such cases it is best to discontinue all treatment for two or three weeks, and then change to the other heavy metal or to arsphenamine.

If the red blood count or hemoglobin becomes low under heavy metal therapy, it is better to change to arsphenamine, giving small doses not oftener than once a week, and increasing the dose gradually.

For complications due to faulty technic of injection, see "Technic of Intramuscular Injection."

*[To be continued in the next issue]*

### POSTGRADUATE MEDICAL EDUCATION

A course on general medicine has been arranged, for the spring term, by Dr. William S. Ladd, New York City, for the Columbia County Medical Society, Hudson, New York.

January 24 Practical Endocrinology Dr. Samuel H. Geist, 100 East 74th Street, New York City

February 7 The Significance of Laboratory Tests and Methods in the Practice of Medicine  
Dr. Ralph G. Stillman, New York Hospital, New York City

February 21 Dehydration, Acidosis, and Shock Dr. A. B. Gutman, 620 West 168th Street, New York City

March 7 Abdominal Pain Dr. Edward M. Livingston, 100 Central Park South, New York City

# Preventive Medicine

## BETWEEN MENTAL HEALTH AND MENTAL DISEASE

B LIBER, M D , DR.P H , New York City

*Editorial Note Under this title will appear short summaries of 'transition cases' from the service of this author in the New York Polyclinic Medical School and Hospital. The descriptions are not complete clinical studies but will accentuate situations from the point of view of individual mental hygiene such as crop up in the everyday practice of medicine*

### The Deserter

Woman of thirty five with two children, nine and six.

Both her husband and her mother, who accompany her, praise her. She had been a good child, later a serious girl who worked as a bookkeeper before her marriage. She was active, efficient, and well liked by her employer. Six years ago, after the youngest child's birth, she "broke down" mentally, being depressed for about four weeks, but was "completely cured." The same thing happened two years ago for a few weeks.

Now, for the last half year, she is all changed. Her present condition began gradually and slowly became worse. She is restless and has lost interest in her family surroundings. From a lively, keen, nice mother and wife she has been transformed into a person who is neglectful about her dearest people and also about herself, her appearance and welfare. There are many moments when she fears "she is going to die" or "she is going insane." She feels "weak and weaker," physically and mentally. Her weight, while still within normal limits, has decreased. She left the children with her husband and his widowed and childless sister and is staying with her mother, a kind, serious, and reasonable-looking person.

"Yes, I love my children," patient says, "they are so wonderful, but I cannot say that I am anxious to see them. I hug them, but it is a strained feeling. When I look at them I say to myself, why don't I want to run to them? I

am unable to take care of them. I want to be happy, there are many good things happening in our family, one of my sisters is getting married, another is graduating from college and so on, but I am unhappy. No, I don't know of any reason why I became that way. It is true that our economic condition is bad, maybe that is the cause but I am not sure. My husband has always treated me well, but without love or warmth. We rarely quarrel and then it is because he belongs to several clubs and comes home late from meetings. Sometimes he leaves the house quietly when I am asleep, at about eleven. I am not jealous, he has no other women. I had nobody else before my marriage. No, I have no visions and hear no extraordinary sounds. I do have thoughts, but they're not thoughts, it's as if they're speaking." (A beginning of hallucination) "I try to do some work in my mother's house, but it is under strain and I must stop soon. My head is so dull. I keep thinking about myself only. From time to time I get an unexpected scare. Something looks like a coffin—and so on. I am hazy, in a daze, in a cloud or rather like in a net, outside the world, not part of it, not interested in it. I don't feel like doing anything. I like to see the day fly, but when I was well I liked to see the day linger. When people come to the house I don't care to see them. I don't enjoy any kind of company. The other day was my birthday and I was sure that it was my last one. I am fighting this idea, but it is there."

At a given moment she says "Don't I know that my fears are not real?"

No, she does not, not completely. Consciousness is side by side with unreality.

In some of the phases in this case, as in many others, mental depression and schizophrenia meet, and we must diagnose between both.

Save the spells of six and two years ago, the personal history of this patient is negative in regard to disease. The childbirths were normal. There is no one in the family suffering from any mind disturbance. Both parents are alive and active.

Patient speaks well, in a perfectly coherent and intelligent manner. Her memory and attention are good. She is a fine, cultured person. Officially she has finished high school, but is well read in addition to that. She is outwardly quiet both at home and in the examiner's presence, but cannot control her tears.

She does not remember her dreams very well. In one that she recently had she was at home and preparing cereal for her children. It is natural that that should be a wish. In another her husband was petting her and she "felt like nailed down through both ovaries"—an expression which is at variance with her usual way of talking.

Her menses are normal. Her blood pressure, heart function, and entire physical make-up show nothing abnormal. She is gynecologically normal. Does not complain about the sex relations, but says husband is cold. "I don't know why." She adds "I am faithful, have always been and have never gone out gallivanting." Yes, even when I was well and the few times I had a smile across my face, his contact was like embracing a lamp post. Of course, now I don't care. Everything seems slow motion and futile and irrelevant. I have quit the field *like a deserter*."

The management of this case demands, not only talks to the patient, but serious conversations to the family, whose behavior is the opposite of what it should

be. It must be explained that just now, until some improvement is seen, it is bad to force this patient with her tired mind to see people or to be socially active, that it is wrong to ask her to make an effort to act differently than she does and so to fatigue herself mentally even more, that it would never do to blame her for her condition or to tell her "it is nothing," etc. She needs kindness, understanding, hope for the future. Nobody around her should cry or show despondency. Nor should anyone be too boisterous or elated. One friend and frequent visitor wants patient to "crush her annoying thoughts." This is erroneous. All we can expect is that she pay no attention to them. They cannot disappear. They must be ignored if possible.

The husband must be told in which way he has erred and how he is to behave in the future.

The patient may be truthfully told that she is sure to get well, as the prognosis in these cases, for the near future at least, is favorable. But at the same time she should be watched, as an attempt at suicide or harmful action is not excluded.

She is at the brink of a psychosis, but she has not passed the threshold.

It has no sense to send her, as the family desired, to a lonely country place, which would do her harm. Her bowel movements must be under control. Some hydrotherapy, perhaps in the form of quiet, protracted lukewarm baths, is indicated. As long as she sleeps well and eats some food, there is no need of coaxing or forcing her or prescribing unnecessary medication.

The effect of her talks with her doctor was rapid and was evident from the first session, which, alas, does not happen often. The examiner felt it in the patient's hand—a response to his own clasp. He was pressing gentle friendship indirectly into her quivering and wounded mind.

# Presidential Address

## IS THE PRACTICE OF MEDICINE BECOMING TOO SCIENTIFIC?

WILLIAM A. GROAT, M.D., Syracuse

*President Medical Society of the State of New York*

SOME twenty years ago Southard, one of the first of the modern medical psychologists, chose for his topic for a speech of the day, "Is the Practice of Medicine Becoming More Scientific?" He talked with considerable insight and most interestingly, but in the end he was unable to answer the question, apparently because he found in some ways it had become more scientific and in other ways it had not. When he had added the plus and minus items he found no measurable gain to science. I am not merely paraphrasing his topic when I choose for mine, "Is the Practice of Medicine Becoming Too Scientific?" We might agree that the reframed question is the more suitable for today.

For many years medicine was comfortably divided into the science and the art. Clinical medicine as we now understand it was still another thing in the minds of many. We had professorships such as "Professor of the Science and Art of Medicine and Clinical Medicine." Was that title a declaration that the science of medicine and the art of medicine were separable and that there might be a third component, the application of these things clinically? If that were true could the clinical application of the science of medicine and the art of medicine be made separately, or must they be used together?

Gradually the idea developed that the science of medicine was a thing apart and the great progress in medicine must be along wholly so-called scientific lines. Scientific medicine was thought to be cold, dispassionate beyond, or above, this matter of human interest. The art of medicine was accepted as a necessary evil,

or as something for the relatively poorly trained or incompetent individuals to practice. It was a field which might be invaded with impunity by the quack, the poorly educated, the various cults, and other aberrant groups. It might even be mixed with religion. The science of medicine should not be linked with it!

George Sarton, in his essay on the *History of Civilization*, was quoted by Millikan before a recent forum on current problems, as saying "The main purpose of man is to create beauty, justice, truth." He recognized that "there have been in all times at least some men who were obsessed by the idea of creating beautiful things, which is art, of improving social conditions, which is philanthropy and righteousness, of discovering and disseminating truth, which is science." This is the summation of George Sarton's philosophy, and, as Millikan has said, "it is a philosophy with which most thoughtful men agree."

It is Sarton's idea of the "mission of mankind", and art, philanthropy, and science were thought to be independent of one another. Millikan was willing to agree that so far as the first of them, art, is concerned it may still be regarded as independent, as something probably separate and distinct. He doesn't agree, however, that justice and truth can be separated. Science is truth, and "without truth social justice is meaningless." Without the scientific background of truth, devotees "with what they would call ideas for 'social justice' are "just as likely to exert a socially pernicious influence as a whole some one." Millikan directs attention to the fact that even "with the best of in

*Delivered at the 18th Annual Meeting of the Medical Society of the County of Monroe  
December 20 1938*

tentions they have done so repeatedly" all through history and that "they are doing so today because they do not know enough of the truth, the basis for all straight thinking, to bend their efforts to what is actually in the interest of social well-being."

I think that we as physicians may well consider that, for I think we will agree that science and the seeking after truth cannot be divorced from those things which are philanthropic, charitable, and righteous.

Indeed, "both good will and knowledge are vital to human progress." Is it not true, much as Millikan has said, that knowledge is the more important, "for do not most people mean well, few are sufficiently well informed to do well?" Progress depends upon the spread of knowledge and that knowledge must be a broad base under all that we call philanthropy and all that we call righteousness, and from these there must be an equal return to science. It seems clear, too, that the increase of knowledge just as it increases the extent of the universe increases the beauty, the scope, the progress, the betterments, the artistic attainments and strengthens the social fabric.

But what about art? Is art really independent? As the art of medicine, can it possibly be divorced from righteousness and philanthropy or from science?

In thinking of medicine and medical progresses based upon its science and in neglecting to think of the progress of medicine as also based upon its art, we may have overlooked the fact that what we call the art of medicine is the backbone of the theory that doctors should be interested in all the humanities of medicine.

We may have failed to realize that the serving of human needs through any medically connected agency should be under the direction and control of those who have knowledge, those who know what they are doing. The humanities of medicine, if for no other reason, cannot be left to those who lack scientific knowledge and scientific training. It is possible that those things which we call social benefits and our community obligations

offer the greatest field for scientific progress in medicine.

We may divide medicine into its parts. We have what we call the pure science part, so closely allied to the basic sciences, and we have the science laboratory researcher who never sees a whole human being, merely a piece or a slice of him, and may not even be a doctor. Many extremely valuable contributions have been made by this group. Their work sounds like strictly systematic science but human interest is involved in it otherwise it would not be medicine. Remote as it may seem to the capable workers in this narrowed field, the human contacts are there.

We have another important group, the experimental medical group. These men are wholly detached from the medical care or treatment of human beings. They are the ones who carefully try out theories, evaluate new methods, discover new hormones, explain the hitherto unknown in the functions of the human body, but they do not treat. Their observations on the living are on the experimental animals. These groups too have thought that they are wholly detached from medical practice, but so many are connected with hospitals and with schools where practitioners are taught, so many of them although they may never have practiced medicine have worked out such marvelous medical things for humanity, that much as they may shake their heads, the human interest obviously is there. They have been attached to the art of medical practice for they see in their minds the clinical picture.

There is still another scientific group which has greatly aided in the discovery of new facts and has been a valuable connecting link between the fundamental medical sciences, experimental medicine, and the practice of medicine. These are clinical investigators.

A clinical investigator customarily works in hospital wards and laboratories. He sees sick people, he welcomes them, talks with them, treats them as patients and all the time with advantage to them, keeps fine clinical records which he studies

carefully He watches the clinical indices of disease under controlled conditions, he weighs the food, he examines the fluids and the outputs, he analyzes the gases, but he is aware of human relations. He must practice the art of medicine not only in order to get the co-operation of his patient but in order to have knowledge of what may be going on in the mind of that patient and what psychologic disturbances are to be pictured therein

In clinical investigation unless the experiment is well conceived, unless the conditions of the experiment are maintained, unless the observations are carefully recorded, there can be no final considerations, deductions or conclusions acceptable in form as something to be added to the total of medical knowledge. There are plenty of men interested in medicine in one way or another along these scientific lines, who may be devoting their entire lives to it. Medicine as a pure science, as an experimental science, and as a clinically investigative science undubitably has become more scientific. It cannot be in these relations too scientific, too careful, too painstaking. Medicine must not make rash experiments, rush to ill-conceived conclusions, or yield to lay impatience, for the welfare of masses of human beings is at stake.

There are those that would have the government take over the financial control of medical research and medical teaching. Were such a thing to happen in its entirety the loss to education would be serious. Lay control can be most helpful, such associations most stimulating. There are lay persons and groups taking interest in medical science and teaching, who have the wisdom to devise large sums of money under private control in such a way that scientific thought is stimulated and work may be performed in comfort, unhurried, free from investigating commissions and bureaucratic busybodies. Governmental control with its political preferments can and has produced that type of scientists who conched in marble halls become, as Hans Zinsser has said, "As unproductive as a hen sitting on a china egg"

We have in the practice of medicine the large group to which you and I belong, and it includes those who appreciate as far as they are scientifically able the work of the investigator and the researcher. We try to evaluate things after the clinical investigator has gotten through with them and make use of them for our patients. We give the clinical trial. The art of medicine is the making of that which is necessary for the patient to have, do, or have done for him as agreeable to him as possible. Until we carefully grade our work, until we are wholly resistant to the detail men, until we have been entirely purged of the desire to buy some new, shiny device which either whirs or spins, in order to impress our patients, we have not become too scientific.

Should every doctor be a researcher? Must every patient be treated as a subject for clinical investigation of research type? Must an elaborate control be attempted, elaborate equipment supplied, repetition after repetition made of what should otherwise have been a once or twice rechecked simple procedure? If so, it would be unscientific. The saying is that everything in this life worth while is either wrong, expensive, or injurious. The quasi scientific mode of procedure is wrong, expensive, and injurious. It is all of these to both patient and physician. Too much of the cost of medical care is of the unnecessary type and the whole science and art of medicine suffers because of it. No need to apologize for or qualify this statement. You know what I refer to and that no slighting of the interests of the patient is to be countenanced.

This overgrowth and emphasis leans toward disparagement of the honest efforts of well informed men to care for patients as simply, as efficiently, and as carefully as can be, and, we may add, as cheaply as possible for the good services to be rendered. What is more, much of the criticism of medicine today both true and false has come to it through the unnecessary costs, the unnecessary procedures, and the thoughtlessness which has entered into a noble profession.

Those who talk of full governmental control desire to make the practice of medicine seem as complicated and costly as possible, then to turn about and offer bureaucratic control as the only recourse.

The transition which has come and the degradation of those almost holy things in the practice of medicine in its purity and simplicity are what brings the scientific average down. There is lacking that union of the creation of beauty, justice, and truth which is the destiny of man. There is distinct scientific loss here. This defect is being recognized by medical schools and remedied. Not only must the student of today go to the laboratories and the basic sciences, he must also make contacts with patients in the wards as clinical clerks or whatever they may be called, and as seniors they follow the patient into the home, they study his family, his surroundings, his job. They try to know these things about him as a whole and to determine the clinical status of the patient by such an evaluation of him and his environments. Like the family physician of old he becomes an adviser, a counselor, and an altogether friendly influence. When he studies medical psychology, public relations, and the obligations of the physician as a citizen, he finds that these too are interwoven into the fabric of medicine. He may now practice with the erudition of today and the tenets of the Greeks, the tenets of his father and of his grandfather who preceded him in practice, and be truly scientific.

Medicine has been unscientific as we

have thrown away so much of the human relation stuff, just as we threw away the vitamins in what was thought to be the useless husk, the essential minerals which were in the pot liquor. Major effects are frequently produced by the smallest ingredient.

It is those seemingly small but very precious things which we have turned over to the inexperienced intern, the nurse, the social worker, the record keeper, the switchboard operator, the pharmaceutical houses, the prepared food merchandisers, the medical machinery manufacturer, the dietitian, the laboratory technician, the x-ray technician, the physiotherapist, the masseur, that has left the ordinary practice of medicine so unscientific and so tasteless. We have put the things which should have been treated with great scientific care into the hands of the less expert, even of the inexperienced, the ignorant, the willfully exploiting. They increase the costs and they help us to make tons and tons of our records just so much wastepaper.

The destiny of medicine is to march with the advance of civilization and is one of the strongest forces in it. Therefore its main purpose is to create beauty, justice, truth. There must be at all times in the practice of medicine at least some men who are obsessed by the idea of creating beautiful things, which is its art, of improving social conditions, which is its philanthropy and righteousness, and of discovering and disseminating truth, which is its science, and the three are one.

---

#### 1939 ANNUAL MEETING, ANNOUNCEMENT OF AN INNOVATION

At the forthcoming Annual Meeting of the Medical Society of the State of New York, the newly formed Section on Gastroenterology and Proctology will hold its first session and for its first day has decided to conduct a type of meeting new to our Society, but which has proved of interest in other similar organizations in the past few years.

The morning will be devoted to a Round Table discussion of subjects to be submitted in advance by any members of the State Society who expect to attend the meeting. A

round table group of speakers, consisting of two gastroenterologists, an internist, a surgeon, and a roentgenologist will discuss the previously submitted subjects in turn, supplemented by brief discussions from the floor. This type of meeting should provide an interesting innovation.

It will be much appreciated by the officers if members of the Society will send in questions for discussion either to the Chairman, Dr. A. F. R. Andreson, 88 Sixth Avenue, Brooklyn, or to the Secretary, Dr. John L. Kantor, 145 West 86th Street, New York City.

# Public Health News

J ROSSLYN EARP, L R C P, Dr P H  
New York State Department of Health

## Our Part in the Control of Cancer

ON Nov 28 and 29, the district health officers and the directors of the several divisions in the central office met in conference at the State Institute for the Study of Malignant Diseases at Buffalo.

Doctor Godfrey gave two reasons for calling this meeting. He told the health officers that he did not want them to forget that they are doctors. He does not expect public health administrators to be at the same time specialists in orthopedics, in cancer, in syphilis, and in tuberculosis, but they must know what is going on in these fields. There are public health problems which lie outside the realm of vital statistics. Our job is to reduce morbidity and to postpone death.

In the second place, Doctor Godfrey said, he wanted the officers of the Institute to know that the Department has an organization in the field which may be of service to them. Education of the public in cancer is just one thing. Another is help that may be afforded in the follow up of cases that have been under treatment. He foresaw the eventual establishment in each district of a register of cancer cases, just as at present there are registers of the cases of syphilis and of tuberculosis.

The policy of the Institute is to concentrate on the treatment of primary cancer, to eliminate all hopeless cases post operative cases with no recurrence, and benign cases where feasible. Treatment is free to residents of New York State. Residents of other states are not accepted for treatment or examination. Each patient must be referred by a physician who is requested to make application for admission giving the following information:

- 1 Name, address, age of patient
- 2 Location of lesion and extent of disease
- 3 Physical condition of patient (state whether or not patient is ambulatory)
- 4 Factors and dates of treatment, if irradiation has been given
- 5 Operative findings and slide, if operation has been done (state extent of recurrence)
- 6 Biopsy report and slide, if biopsy has been done and tissue has not been sent to our laboratory

Although too many cases still arrive at the doors of the Institute in a late, incurable stage, Doctor B T Simpson told us that there is encouraging evidence that family physicians do make early diagnoses when they are given the chance. Three cases of cancer of the cervix have recently been referred in a stage so early that the Institute's experts could not make a clinical diagnosis, but in each case biopsy proved the presence of malignant growth. There was some discussion in the conference on possible danger of spreading cancer cells by performing biopsies, a danger which had been impressed on several of us in our surgical adolescence. Dr Simpson stated categorically that at the Institute they have never observed any detrimental effect from biopsies. The use of Lugol's solution on the cervix was recommended as a screen process though it was pointed out that any morbid condition that will remove glycogen from the epithelial cells will show an area that fails to take the iodine stain. In making biopsy sections we were advised to select tissue from the edge of the suspected area so as to in



clude some normal tissue in the stage of invasion

The question of preoperative radiation was brought up by Doctor Godfrey. Doctor Simpson pointed out that some of the surgical difficulties, especially in skin suture, caused by preoperative radiation are due to faulty technic. The Institute favors preoperative radiation but recommends that subsequent surgery should not be delayed.

We were privileged to make a tour of the Institute and to view its facilities. One could not help being impressed with the thorough organization as a result of which radium and x-ray plants are kept in almost perpetual therapeutic use. The essential place taken by the resident physicist in controlling by constant checking of apparatus the exact dosage of radiation administered was also impressive. Finally one could not help wishing that where public money is being so efficiently spent there might be no stringency due to lack of capital outlay. Of the three high-power x-ray machines one is seventeen years old, another eighteen years old. The Institute needs two new machines of 200,000 volts each, two of 550,000 volts, and one of 1,000,000 volts. An important research problem is the determination of biologic advantages of the new one-million-volt plants which have now become available at a price within the purchasing power of a state.

### Of What Kind Should State Medicine Be?

"Medical care for persons on relief has frequently been largely emergency treatment for acute illness and has all too often been predominantly palliative." This complaint was registered by Dr. Ernest L. Stebbins, Assistant Commissioner for Preventable Diseases, New York State Department of Health, at a public dinner meeting held in the Onondaga Hotel at Syracuse on December 14. By considering the number of persons gainfully employed in this State who are not required to file income tax reports because of in-

sufficient income and from the records of T E R A, Dr. Stebbins made a rough estimate that there are some two million people in the State of New York who have insufficient income to make their own provision for medical care. The amount of disabling illness may be reduced by preventive measures: immunizations, industrial and environmental hygiene. The need for long continued palliative treatment may sometimes be avoided if facilities for adequate therapy are promptly available. For public medical service whether preventive or curative, the family should be considered as a unit. Health supervision must be maintained at all ages and for both sexes. In the provision of diagnostic facilities and for hospital care existing centers should be used to the fullest possible extent. Similar centers should be developed in rural areas not now supplied. The centers could be used for general health supervision, operated by the local medical profession with provision for reasonable compensation. In answer to a question the speaker made it clear that he favored routine medical examinations. There should be a system of "screening" to prevent overcrowding of the diagnostic centers where detailed case study would be undertaken. Government subsidy will be needed if free hospital beds are to be available in all areas. Special hospitals and treatment centers are needed if the control of cancer is to progress. Hospitals, treatment, and training facilities are needed for care of physically handicapped children, especially those in need of orthopedic care or suffering from heart disease. Dr. Stebbins concluded with the following caution:

"The development of a program of medical care for the medically indigent is an undertaking of such magnitude, and experience in this field is so limited and the disastrous effect of failure due to inadequate planning is so obvious that it seems definitely desirable that any plan for the development of a system of medical care for the medically indigent be started on a small scale or in a limited area and that it be expanded gradually as experience

and knowledge of administration is gained through actual practice "

The dinner was sponsored by the Health Division, Syracuse Council of Social Agencies and was addressed first by Dr Peter Irving and then by Dr Stebbins. A short discussion followed.

### Operative Obstetrics and Stillbirths

Seven years ago J V de Porte<sup>1</sup> observed that babies in upstate New York are subject to a greater risk of being still born if they arrive between 3 P M and 6 P M. than if they are born at any other hour of the day or night. His study was made on statistics recorded during the year 1929. J Yerushalmy who has recently left our department to work for the U S Public Health Service confirmed Dr de Porte's earlier observations working with statistics for 1936.<sup>2</sup> He found that both neonatal deaths and

stillbirths struck with greatest force the infants born between 3 P M and 5 P M. Since in the meanwhile various obstetricians had suggested that the afternoon hours might be loaded with an extra number of operative deliveries, Dr Yerushalmy also investigated this point. Through the co-operation of Dr Archibald Dean, District Health Director for western New York and Dr Thomas J Duffield, Registrar of Records for the New York City Department of Health, he was able to draw up tables showing the frequency of operative procedure by hour of birth. Operative obstetrics it seems are most frequent at two different periods in the day one around eleven in the morning and the other between 3 P M and 5 P M. Dr Yerushalmy is careful to say that a correlation does not prove cause and effect. The statistics do, however accord with certain preconceptions which some obstetricians have advanced.

<sup>1</sup> de Porte, J V. *Am. J. Obst. and Gynec.* 23:31 (January, 1932).

<sup>2</sup> Child Development (in press).

### TYPHOID MARY DIES

The death on November 11 of Mary Mallon aged seventy who achieved notoriety as the first typhoid carrier recognized in the United States brings to a close a strange history. observes the *J.A.M.A.* "Typhoid Mary" was a cook whose employment was almost invariably accompanied by an outbreak of typhoid. Her rôle in the spread of this disease was finally recognized in 1907 and she was forcibly kept out of circulation at the Detention Hospital of the Health Department for three years. Following her voluntary release in 1910 she disappeared for five more years and although her history neither before her first detention nor after her disappearance could be learned completely she was known to have caused at least ten outbreaks of typhoid with fifty-one cases. From 1916 until her recent demise she was held by the New York City Department of Health in the Riverside Hospital on North Brother Island. She became reasonably adapted to her changed status, and her stools were constantly used by the health department as a control for mediums used in the culture of typhoid bacilli. Typhoid Mary will be known forever in association with the typhoid carrier problem.

### BLOOD BANKS ARE SAVINGS BANKS TOO

Blood banks in New York City hospitals have developed into one of the least expensive of life-saving measures representing savings of more than \$200,000 a year for the taxpayers.

Storage of different types of blood by means of a harmless chemical and refrigeration make possible the development of the so-called blood banks.

Friends and relatives of patients needing transfusions volunteer the blood.

So excellent has been the response that the estimated cost of blood transfusions for a year will be reduced from \$225,000 to \$20,000 a year or less. Instead of giving money for taxes to support the cost of blood transfusions, the taxpayer may now give of himself.

With the cost of transfusion becoming a negligible item, its therapeutic use has widely expanded. Instead of being a measure used in the last extremity blood transfusions are used to hurry convalescence thus making further savings in decreased hospitalization days.

This has already been indicated by the number of transfusions in 1938, which totaled 10,465 for the first eleven months compared to 8,943 for all of 1937.

# The Woman's Auxiliary

To the Medical Society of the State of New York

## County News

### Kings

Mrs Milton Bergmann was elected president of the Woman's Auxiliary to the Medical Society of the County of Kings, at the meeting held in the Medical Society Building on December 13, 1938. Mrs George Clark former president of the Woman's Auxiliary to the Medical Society of the State of Indiana was an honored guest. Mrs Bergmann, the new president, spoke on the meaning of the caduceus. Another interesting feature of the afternoon program was the showing of baby pictures of the members of the auxiliary and an exhibit of their needlework and hobbies. A social hour followed the executive session and program.

### Rensselaer

Mrs James Donnelly, president of the Woman's Auxiliary to the Medical Society of the County of Rensselaer, was elected for a second term at the annual meeting, held in the Samaritan Hospital on Dec 13, 1938. Miss Grace E Allison, Superintendent of the Hospital, spoke on "Ideal Hospitals and Social Welfare."

### Queens

The installation of the officers of the Woman's Auxiliary to the Medical Society of the County of Queens took place on Wednesday Evening, December 28, in the Medical Society Building, Forest Hills. Dr Henry Eichacher, retiring

president of the Medical Society greeted the guests and presented Mrs Elmer Kleefield retiring president of the auxiliary with her pin. Dr Joseph Wrana, newly elected president of the Medical Society welcomed Mrs William Lavelle and her new board. Dr Wrana spoke of the work the auxiliary had done and of the value of an auxiliary to its Medical Society and to the Medical Profession.

Mrs John Mahoney was in charge of arrangements.

### Saratoga

Mrs Mark Nettles was elected president of the Woman's Auxiliary to the Medical Society of the County of Saratoga at the annual meeting held on December 5. She succeeds Mrs G Scott Towne first County Auxiliary president who is now president-elect of the State Auxiliary and who takes office as president at the Annual Convention of the State Auxiliary to be held in April, 1939, in Syracuse.

Mrs Leshe Sullivan, president of the Woman's Auxiliary to the Medical Society of the County of Schenectady was the guest speaker. She gave an interesting account of the activities of her own auxiliary.

---

*The article which appeared in the January 1 issue was written by Mrs Luther Rice, Organization Chairman of the State Auxiliary*

---

### "CHEAPER" IS RIGHT

The headline, "Eight States Get Cheaper Medical Care," which one Ohio daily used on an article regarding various medical service plans, seems to summarize just what is likely to happen—cheaper medical care—if the crack-pot schemes which are being suggested by some reformers ever take root.—*Ohio State M J*

### NO "DOCTOR IN THE HOUSE"

The cry "Is there a doctor in the house?" will not get a ripple in either branch of the 1939 Legislature. Not a physician is seated in either chamber, says an Albany dispatch. If any physicians ran for the legislature, the voters paid them the delicate compliment of deciding they could not be spared from the home town.

# Medical News

## Allegany County

The new officers of the Allegany County Medical Society for 1939 are as follows president, Phillips I Morrison, Bolivar vice-president, J Paul Rems, Belmont secretary, Edwin F Comstock, Wells ville, treasurer, Roger W Blaisdell, Wellsville.

The following were re-elected to the Board of Censors George W Batt, Hanford K Hardy, William F Reedy, Sam B Scott, and Elmer S Webster

Delegate to the State Society Lyman C. Lewis, Belmont, alternate to the State Society N H Fuller Friendship

## Bronx County

The scientific program of the Bronx County Medical Society on December 21 was as follows

Symposium on Voluntary Health Insurance (A) Cooperative Health Associations, Dr Kingsley Roberts (B) The Next Step, Dr Chas Gordon Heyd, (C) Discussion, Dr M J Goodfriend Dr Solomon Krell, and Mr James R Garrett.

The North Bronx Medical Society on January 5 listened to addresses on 'Anxiety Hysteria,' by Dr Jacob H Friedman 'Coronary Thrombosis,' by Dr Herman L Frosch, 'Beta Hemolytic Streptococcal Meningitis and Septicemia of Otic Origin Treated by Sulfanilamide' by Dr David L Frey, and 'Impotence and Sterility in the Male,' by Dr Max Huhner

## Broome County

These officers, chairmen of committees censors delegates and compensation board were elected at the Annual Meeting of the Broome County Medical Society, on December 13 president, Charles L Pope, Binghamton, vice president, Charles M Allaben, Binghamton, Secretary, Rolland C Bates, Binghamton asst. secretary, Mark H Williams, Binghamton treasurer, Elton R Dickson,

Binghamton, asst. treasurer, Edward M Jones, Endicott.

Chairmen of Committees Economics Harry I Johnston, Binghamton, Legislation, Chalmer J Longstreet, Binghamton, Library and History, Stuart B Blakely, Binghamton Membership, Clifton H Berlinghof, Binghamton, Milk Committee Perry H Shaw Binghamton Public Relations Blinn A. Buell, Binghamton, Public Health George S Lape Binghamton

Censors Stuart B Blakely, Binghamton John J Cunningham, Binghamton, Frank M Dyer, Binghamton, Silas D Molyneaux, Binghamton Charles D Squires, Binghamton

Delegates Samuel M Allerton, Binghamton, George C Vogt, Binghamton

Alternates Clifton H Berlinghof, Binghamton, Charles M. Allaben, Binghamton

Compensation Board Harry I Johnston, Binghamton Frank M Dyer, Binghamton Lionel O Smith, Johnson City Howard P Griffin (one year) to replace Frederick M. Miller resigned

## Chautauqua County

Dr Howard L Prince, chief of staff, Rochester General Hospital spoke on 'The Diagnosis and Treatment of Intestinal Obstruction' at the December dinner meeting of the Jamestown Medical Society at Hotel Jamestown Dr Homer M Wellman presided and introduced the speaker Dr George W Cottis opened the discussion period

## Chemung County

The Chemung County Medical Society elected officers and voted a constitutional change lightening the restriction on membership of foreign born physicians at its annual meeting on December 7 at the Arnot Ogden Memorial Hospital

The constitutional change was made because of the persecution in other countries of physicians who may wish to become U S citizens. In the past, it has

been necessary for a physician to have his final citizenship papers, involving residence of at least five years, before becoming eligible for membership in the county society

In the future he will be eligible for membership if he has taken out his first citizenship papers

The following officers were elected, all of Elmira: president, Rene Breguet, vice-president, George R. Murphy, secretary, Robert J. Lawler, treasurer, Sven L. Larson, delegate to state society, Elliot T. Bush, alternate, John F. Lynch, delegate to 6th district, Donald J. Tillou, alternate, Floyd E. Woodhouse, member board of censors, Alfred J. Westlake, member board of trustees, Charles F. Abbott.—*Reported by Robert J. Lawler, M D, Secretary*

### Erie County

Dr. Howard B. Sprague, of Boston, addressed the Buffalo Academy of Medicine on December 14 on "What Price Coronary Thrombosis?"

### Franklin County

Dr. Edward R. Baldwin, dean of the Saranac Lake medical profession, has announced his retirement as director of the Trudeau foundation and Trudeau school after 22 years of service.

Although head of the foundation since its beginning in 1916, Dr. Baldwin has been identified with Trudeau sanatorium since 1893 when he came to Saranac Lake and has played the major rôle in the history and development of the institution, as a colleague of the late Dr. Edward Livingston Trudeau.

At the same time, Dr. Baldwin announced that Dr. LeRoy U. Gardner, director of the Saranac Laboratory, will succeed him as director of the foundation and the school.

It was also announced that Dr. Francis B. Trudeau, vice-president of the sanatorium, will serve as chairman of the medical board and Dr. F. H. C. Heise will continue in office as medical director.

### Genesee County

The Annual Meeting of the Genesee County Medical Society was held December 8. There were twenty-five physicians present.

The paper was given by Dr. R. Plato Schwartz of Rochester, on "Backache and Sacroiliac Lesions."

The following officers were elected for 1939: president, G. Henry Knoll, LeRoy, vice-president, Eugene G. Ribby, Byron, secy-treasurer, Peter J. Di Natale, Batavia, delegate, Peter J. Di Natale, Batavia, elected last year for two years.

Steps are going ahead for survey of medical needs.—*Reported by Peter J. Di Natale, M D, Secretary*

### Jefferson County

At a meeting of the Jefferson County Medical Society on Nov. 10, the following officers were elected: president, James E. McAskill, Watertown, vice-president, Harold L. Gokey, Alexandria Bay, secretary, Charles A. Prudhon, Watertown, treasurer, Walter F. Smith, Watertown.

Board of Censors: Harlow E. Ralph (Belleville), Carl B. Alden (Adams), Jesse R. Pawling (Watertown), David G. Gregor (Watertown), and Murray M. Gardner (Watertown).

Delegate to the State Society: C. A. Prudhon, Watertown, alternate to the State Society: Norman L. Hawkins, Watertown.

Delegate to the Fifth District Branch: Howard N. Cooper, Watertown, alternate to the Fifth District Branch: S. E. Douglas, Adams.

Members of the Medical Society of Jefferson County gave five-minute résumés of "What's New in 1938" in various fields of medical science at the regular monthly meeting of the society on December 8 at the Black River Valley club. Discussion and questions followed presentation of each report.

Those reporting on the year's scientific gains and their topics were as follows: "Surgery," Dr. H. N. Cooper, "Obstetrics and Gynecology," Dr. W. D. George, "Internal Medicine," Dr. W. W. Hall, "Pediatrics," Dr. Norman L. Hawkins,

"Ophthalmology," Dr L E Henderson, "Roentgenology," Dr T N Sickels, "Otolaryngology," Dr C. A Prudhon, "Tuberculosis," Dr S E Sumpson, "Urology," Dr W W Young, Social Diseases," Dr L R Smith

The meeting was preceded by dinner at 6 30 P M.

### Kings County

Twelve Brooklyn physicians, members of the Red Hook-Gowanus Health Center Advisory Board of the Board of Health, have resigned in a body from that board as the result of differences with Health Commissioner John L. Rice. Dr Pasquale J Imperato, member of the board, in an address at the twelfth annual meeting of the South Brooklyn Medical Society said the resignations were presented to protest "incompetent treatment" of syphilis patients at the center, which has a capacity of 1,000 patients and treats 4,500. He said Dr Rice had rejected a suggestion that volunteer private physicians be called in to treat the cases at \$1 each to relieve the center's staff

Fifty years of medical practice by Dr J Richard Kevin of Brooklyn were celebrated by his friends at a dinner at the Hotel St. George on December 10

Dr Laura M. Riegelman, of Brooklyn, who is retiring from the Department of Health after thirty-one years of service, was honored at a dinner on December 7, attended by more than two hundred medical inspectors health officers, and friends

The Richmond Hill High School is giving a semi professional course to train doctor's office assistants

### Monroe County

Three days, January 11, 12, and 13, were devoted to dedication ceremonies, open house, and special meetings in connection with the opening of the new home and auditorium of the Rochester Academy of Medicine at 1441 East Avenue.

### New York County

"Vitamins, with Special Reference to Therapy" will be the topic at the meeting of the New York Academy of Medicine on February 2. The speakers will be Drs. Arthur M. Yudkin, Norman Jolliffe, and Gilbert Dalldorf. Discussion by Arthur J. Patek, Jr., Soma Weiss, and Philip Finkle

Topics and speakers at the Friday afternoon lectures at 4 30 at the New York Academy of Medicine will be January 20, "Breast Cancer," Dr Frank E. Adair, January 27, "Toxemias of Pregnancy," Dr Arthur M. Fishberg, February 3, "Laboratory Aids," Dr William S. Tillet.

On December 20, 1938, the Council of the City of New York adopted the following

### RESOLUTION OF RECOGNITION OF THE PART PLAYED BY THE SEVEN THOUSAND PHYSICIANS OF THE CITY OF NEW YORK FOR PROTECTION OF THE PUBLIC HEALTH

which was presented by Messrs Sharkey and Cashmore—

WHEREAS In the City of New York there are 7 000 physicians working day and night to keep people well and

WHEREAS, They have no cornerstone to lay nor a public official to praise with florid speeches their deeds. These are limited to praise of municipal health agencies, and

WHEREAS, Emphasis is laid on the City work in reducing mortality and sickness through units sponsored by the City with a woeful disregard of the part played by the private practitioner and

WHEREAS, It is considered unethical for individual medical men to publicize themselves nor have they inclination or opportunity to sing their own praises now therefore be it

Resolved That we members of the City Council do hereby take official cognizance of the great part played by the forgotten 7 000 private practitioners in this city in the reduction of sickness disease, and the death rate and deplore any attempts which may be made to minimize their great contributions and be it further

Resolved That a copy of this resolution be sent to the official medical society in each County of the City of New York.

Referred to Committee on Rules,

Dr Maurice J Sittenfield, of New York City, who died on December 1, was one of the first to introduce x-ray therapy into this country and one of the first to use x-ray and radium in the treatment of cancer

Dr William Miller Ford, surgeon, former president of the St. Vincent's Hospital medical board, and director of the gynecology and obstetrics departments at St. Vincent's since 1927, died of a heart ailment at his home, 55 E 86th St, in November, aged sixty

Dr Ford, a native of Brooklyn, was consulting gynecologist for the New York Hospital for the Ruptured and Crippled for seventeen years, and was chief surgeon and director of the Manhattan Maternity Hospital when it was merged with the New York Hospital group. He was also consulting gynecologist for St. Clare's Hospital, and a former professor of obstetrics at New York University

#### Niagara County

The Niagara County Medical Society has approved in principle the medical indemnity insurance plan

#### Oneida County

A series of six lectures on heart disease, under the auspices of the Medical Society of the County of Oneida, have been given by authoritative speakers from New York City at the Utica State Hospital from November 30 to January 4

Five district meetings have been held in various parts of Oneida County, in co-operation with the County Medical Society, in an educational campaign against pneumonia

#### Ontario County

Advances in treatment of cancer were listed and described on November 17 by Dr George T Pack, of New York City, speaking before the 16th annual dinner meeting of the Geneva Academy of Medicine at the Hotel Seneca

Dr E C Merrill was host to the Canandaigua Medical Society on November 17, in the Canandaigua Hotel. Dr

Adrian S Taylor of Clifton Springs read a paper on "Empyema"

#### Otsego County

The Otsego County Medical Society has endorsed the movement for seven more public-health nurses in the county, in addition to the two now on duty

#### Putnam County

Dr John E Heslin, Professor of Urology at Albany Medical College, addressed the Putnam County Medical Society upon "Urological Problems in General Practice," at the monthly meeting on December 7 at Carmel Country Club—*Reported by John T Jenkin, M D, Secretary*

#### Queens County

Queens physicians gave a testimonial dinner at the Pomonock Country Club in Flushing on December 14 to celebrate the fifty-two years of medical service of Dr George K Meynen, of Jamaica

These officers were elected at the annual meeting of the Medical Society of the County of Queens on November 29: president-elect, William T Berry, Long Island City, secretary, Frank R Mazzola, Jamaica, asst secretary, Chester L Davidson, Jamaica, treasurer, Daniel J Swan, Flushing, asst. treasurer, Bernard Davidoff, Long Island City, historian, Carl Boettiger, Flushing, directing librarian, Carl Boettiger, Flushing, asst., William Benenson, Flushing, censors, Edward C Veprovsky (3rd district), Leo G Goldberg (4th district), Samuel Dillon (5th district), Jacob Werne (at large), trustees, James M Dobbins, William J Lavelle, James R Reuling, Jr, delegates, W Guernsey Frey, Jr, H P Mencken, alternates, Elmer A Kleefield, William Benenson, John J Sheehy

The following will remain in office: delegates, James M Dobbins, Frank R Mazzola, James R Reuling, Jr, Joseph Wrana, alternates, Walter L Lynn, Charles S Miller, Daniel J Swan, trustees, Thomas M d'Angelo, Henry C

Courten, Herbert L Langer, Francis G Riley, Albert L Voltz, censors, Raymond L H Murphy (2nd district), Edward C Steiner (1st district), John F Wolfram (6th district), Robert R Yanover (at large)—*Reported by Frank R Mazzola, M.D., Secretary*

The Medical Society of the County of Queens is giving a free course in medical Italian at the Society's building at Forest Hills.

### Richmond County

The Annual Meeting of the Richmond County Medical Society was held on December 14, at the Richmond County Health Center, and the following officers were elected president, Frederick M Schwerd M.D., vice president, Herbert A Cochrane, M.D., secretary, John K Lucey, M.D., treasurer, Curtis J Becker, M.D., censors Charles E Pearson M.D., Andrew J McGowan, M.D., Nathanael Fedde, M.D., delegates to state society Arthur S Driscoll, M.D., Stanley C Pettit, M.D., alternates Erna S Enderle, M.D., Else T Marcus, M.D., Christopher J DiCrocco, M.D., delegates to 1st district branch Robert M Shields, M.D., Florence T Donovan, M.D., alternate Christopher J Di Crocco, M.D.

The presidential address given by Dr Schwerd was on medical economics, and Dr Becker submitted his treasurer's report from December 3, 1937, to December 1, 1938, showing total receipts of \$2,622.09 and disbursements of \$2,644.57.

The New York City Department of Health has given the Society the use of the auditorium in the Richmond County Health Center for meetings, and has also provided the Society with an office for its own use in the building.

### Rockland County

These officers were elected at the annual meeting of the Medical Society of the County of Rockland on Dec. 6: president, Julius Pomerantz, Spring Valley, vice president, Russell E Blaisdell, Orangeburg, treasurer, Dean Miltimore Nyack,

secretary, William J Ryan, Pomona. Chairmen of committees: membership, John W Sansom, Sparkill, legislative John C Dingman, Spring Valley, public health and public relations, George M Richards, Stony Point, scientific work, E Hall Kline Nyack, medical economics Harold S Heller Spring Valley.

The following were elected at the annual meeting on December 1 1937, Spring Valley, N. Y., for two years: board of censors, 1938 and 1939 chairman, Alexander N Selman, Spring Valley, vice-chairman, George W Unsworth, Suffern, Russell E Blaisdell Orangeburg (Dr Blaisdell replaced by Matthew J Sullivan of Haverstraw 12/6/38), Royal F Sengstacken, Suffern Orville N Lewis, Haverstraw Delegate to State Society, Stephen R Monteith, Nyack, 1938 and 1939, alternate delegate, William J Ryan, Pomona, 1938 and 1939.

### St Lawrence County

Dr Jay C Meeker was elected president of the St. Lawrence County Medical Society at the annual meeting at the Crescent Hotel in Ogdensburg on November 22. Dr Meeker succeeds Dr S Pope Brown of Potsdam and presided in the absence of the president. Other officers chosen were:

Dr David M Mills, Gouverneur vice-president, Dr Samuel W Close, Gouverneur, secretary-emeritus, Dr Robert J Reynolds Potsdam secretary, Dr Lloyd T McNulty, Potsdam, treasurer, censors, Dr Paul G Taddiken, Dr M. J Stearns Ogdensburg, and Dr F C Mason Massena, delegate to House of Delegates, 1939-40. Dr W Grant Cooper, Ogdensburg, alternate, Dr T M Watkins, Potsdam, delegate to district branch, Dr John E Free, Ogdensburg, alternate Dr C F Prairie, Massena.

Following the dinner Dr Grant C Madill, guest speaker, delivered an interesting talk on Socialized Medicine.

A testimonial dinner was tendered Dr Close at the St. Lawrence Inn at Gouverneur on December 4 in honor of his fifty-one years of service as secretary of the



society At the annual meeting he was made secretary emeritus for life

### Schenectady County

At the Annual Meeting of the Schenectady County Medical Society at the Mohawk Golf Club on December 8, the following officers were elected president, John R Schermerhorn, vice-president, Frank L Sullivan, secretary, Joseph H Naumoff, treasurer, Charles E Wiedeman Board of censors, Albert S Fay, Arnaldo A Samorini, E MacDonald Stanton, delegate to the state convention, Frank L Sullivan, alternate, Harry E Reynolds, delegate to the Fourth District Branch, Charles F Rourke, alternate, Isaac Shapiro Representatives to board of managers of Ellis Hospital, A B Van Vranken, Ex-President, J H Cornell, County Soc at Large, A Grussner, Staff—*Reported by Joseph H Naumoff, Secretary*

### Steuben County

Dr D Roger Haggerty of Arkport was elected president of the Steuben County Medical Society, succeeding Dr A E Richmond of Wayland, as the Society held its annual meeting in Bath on November 8

Corning physicians were named to the two other executive offices Dr Richard A O'Brien is the new vice-president, replacing Dr Haggerty who moved up to the presidency Re-elected secretary-treasurer was Dr R J Shafer

Dr H B Smith, also of Corning, is again delegate to the State Society, and as alternate, Dr Guy M Parkhurst of Bath was chosen

The Board of Censors was re-elected They are Dr M A Place, Hornell, Dr J J Sanford, Bath, Dr L A Thomas, Painted Post, Dr Stuart H Bean, Addison, Dr E P Smith, Cohocton

Two Syracuse men, Dr Springer and Dr Hyde, presented medical papers

### Sullivan County

The following members were elected to office in the Medical Society of Sullivan County at the annual meeting on October

17 president, Harry Golembe, Liberty, vice-president, Ralph S Breakey, Monticello, secy-treas, Deming S Payne, Liberty

Board of Censors Deming S Payne (Liberty), Cornelius Duggan (Bethel), Jacob Kornblum (Monticello), Louis Launer (Liberty), J M Rosenthal (Monticello), and J Stanley Woolley (Liberty)

Compensation Committee Ralph S Breakey, Monticello, and Harry Jacobs, Hurleyville

Alternates Harry Golembe, Liberty, and George Seiken, Liberty, delegate to the State Society Victor G Bourke, Livingston Manor, alternate to the State Society Deming S Payne, Liberty

A physician whose simple mode of life and office fees of fifty cents a visit led to a popular belief that he was a poor and humble country practitioner was recently revealed to have left an estate of more than a quarter of a million dollars An appraisal of the estate of Dr Frederick A McWilliams, of Monticello, who died in August, aged eighty-seven, was filed with Surrogate George L Cooke by Roy C Johnston, Sullivan County Treasurer

Dr McWilliams practiced in Monticello for sixty years He maintained a modest two-room office in the Masonic Building, near the center of the town, and lived in a small apartment behind his office He customarily ate in a lunch wagon next door and although he abandoned his night practice ten years ago, he made perhaps a half dozen calls a day and treated ten or twelve office patients each afternoon

Dr McWilliams' property previously had been assessed at \$1,469, but the list filed included stocks and bonds amounting to \$140,477 73, mortgages, notes, cash, and insurance, \$112,401 02, and miscellaneous accounts totaling \$2,512 He was one of the wealthiest men in Sullivan County

### Tioga County

These officers were elected at the annual meeting of the Medical Society of the County of Tioga on December 6 president, Corbet S Johnson, Spencer,

vice-president, Charles J V Redding, Owego, secy treasurer, Ivan N Peterson, Owego, alt delegate, Arthur C Hartnagle, Berkshire, censors, Frederick A. Carpenter, Waverly, F Hallett Spencer, Waverly, Edward S Beck, Owego

The term of Dr Moulton as delegate does not expire this year and he thus continues in that office.

Dr G S Carpenter reported that a Post Graduate Course under the direction of Dr John Moorhead of the Columbia Post-Graduate Medical School has been arranged for March and April

Dr Redding, chairman of the program committee, introduced Dr A D Longmuir, assistant director of the Bureau of Pneumonia Control, who addressed the society on "Modern Trends in Pneumonia Treatment." He also showed "New Day," an educational film on pneumonia for lay consumption —*Reported by I N Peterson, M.D., Secretary*

#### Warren County

The new officers of the Medical Society of the County of Warren are as follows president, Dwight M. Sawyer, Glens Falls, vice-president, Patrick H Huntington, Warrensburg, secy treasurer, Jesse S Parker, Glens Falls, Board of Censors, Herbert A Bartholomew, John E Cunningham, Roger S Mitchell Delegate to State Society, Morris Maslon

The following Committee Chairmen have been appointed by Dr Sawyer for the year legislative, E Burton Probasco, public health, Morris Maslon, public relations, James B Shields, workmen's compensation, Leonard A. Hulsebosch.—*Reported by Jesse S Parker, M.D., Secretary*

#### Wayne County

The Annual Meeting of the Wayne County Medical Society was held in Lyons, Tuesday, December 6 The following officers were elected for 1939 president, Dr Edward S Platt, 1st vice-president, Dr Charles L. Steyaart, 2nd vice-president, Dr James L Davis, secy and treasurer, Dr James L Davis, censors, Dr M E Carmer, Dr Arthur Besemer, Dr George Allen, delegate, Dr Ralph Sheldon, alternate, Dr Sam Houston

Sherman W Meech, managing director of the Rochester Hospital Service Corporation explained in detail—Hospital Non profit Insurance Plans The subject was of especial interest because the Rochester Corporation has just received a charter to extend its services into seven counties surrounding Rochester Wayne County is included The Society passed a resolution unanimously favoring Non profit Hospital Insurance Plans and a committee is to be appointed to study and report at a next meeting —*Reported by James L Davis, M.D., Secretary*

#### Wyoming County

The following are the officers of the Wyoming County Medical Society for 1939 president, George G Davis, Arcade, vice president, G Stanley Baker, Castile, secy treas, Oliver T Ghent, Warsaw

Board of Censors Mary T Greene (Castile), Lester H Humphrey (Silver Springs), and M. Jean Wilson (Warsaw)

Delegate to State Convention, Henry S Martin, Warsaw, alternate delegate Richard B Bean, Castile.

#### OLIN MILLER SAYS:

*From Dixie Dew Drops in the Atlanta Journal  
Relayed by A. C. S., Elberton, Ga*

A government bureau may be making a dread ful mistake in trying to purge the American Medical Association. It is messing around with a bunch of boys who know a thing or two about purgatives themselves.—J A M A

Warnings have been sent out by the Food and Drug Administration against the indiscriminate public use of sulfanilamide, cinchophen neo-cinchophen aminopyrine and related drugs and it is announced that drug preparations containing them and marketed and labeled for general public use are, when found in interstate commerce, actionable.

# Hospital News

## Those Hospital Visitors!

They mean well Their intentions are good But we have all heard that the road to a certain place is paved with good intentions They mean all right, but the result is all wrong They wish the patient well, but leave him worse than before they came Nor is that all They have a tendency, "like bananas and street cars, to come in bunches," remarks Miss Alice L. Price, R. N., B. S., of Grant Hospital, Chicago, in *Hospital Management* "So," she adds "often patients who are permitted visitors from two to four o'clock in the afternoon will be alone until three-thirty only to find themselves in the midst of a traffic jam of well meaning friends during the last half hour Seldom, if ever, does one visitor leave when another arrives They stay on and on, believing that there is 'always room for one more' until the walls of the room fairly bulge "

It is hard to tell which is the worst, the "Cheery Visitors," the "Saddened, Long-Faced Visitor," the "Complaining Visitor," the "Timid Visitor," the "I've-Had-It-Too Visitor," or the "Curious" or "Nosey Visitor " There is not room here to pass all these pests in review, as they are described in Miss Price's vastly entertaining article, but she places at the head of the parade the "Cheery Visitor," who is "probably not the most sinister, but certainly one of the most annoying " Here she is

"She comes with great long strides head up, chest out, and breathing deeply, her face set in a grimly determined smile She enters the victim's room at the most inopportune times, pointedly ignores the fact that the patient is perched on the bedpan or has just been given a sedative, and goes into action, 'cheering up' the sick She is secretly pleased at the contrast of her own breeziness with the patient's wan listlessness, she fairly screams of robustness and energy She gloatingly asks, 'How are *you*?' when

what she really means is 'Look, see how strong and healthy *I* am ' She does *all* the talking so the poor, dear patient won't have to exert herself She is simply thrilled at how much *better* the patient looks Why, she's 'practically out of the hospital already,' and how '*lucky* she is to have nothing to do but rest in such a *lovely* room with nurses and interns to wait on her ' Why, being in the hospital is a '*treat*,' she just believes she 'will go out and get herself a cute little germ so *she* can come in for a rest in this very hospital ' She just bets, too, that the patient 'isn't really sick' because she 'looks so well ' And she knows that soon after being dismissed the unfortunate convalescent will be 'as strong and healthy' as *she* is This type of visitor when ready to withdraw makes doubly sure that her visit has not been in vain by repeating, in a manner which underlines each word, the admonition to 'Don't worry about a thing, and never say die ' She then leaves the sick-room, satisfied that her little visit has brightened the day for the wretched woman who 'anyone can see at a glance is not going to recover ' The patient feels too that recovery is doubtful if she has to endure another such visit. The visitor, so obviously rugged and active, has taken with her the small amount of strength the patient did possess "

Next on the nuisance list is the long-faced type, "who shower the patient with sympathy and try their best to make him feel worse than he already does " They halt abruptly on entering the room, and give the patient a glare full of meaning

"They are shocked by the way he looks and tell him so If he insists that he feels pretty good, they shake their heads ominously and remind him that 'Jim felt pretty good too just before *he* died ' They ask in a worried tone if the doctor has been in yet this morning and hadn't

he better be notified? They wouldn't think of staying very long if they had known the real circumstances, they wouldn't have called at all. They do hope the patient will soon be out of the hospital (their tone of voice conveys their skepticism) because hospitals are so gloomy and depressing.

"The nurse who enters the room after this type of visitor has departed may find the patient worriedly counting his own pulse or trying to catch a glimpse of himself in the mirror. He's sure he is suffering a relapse because he suddenly feels so much worse, and he is so very anxious to have his doctor come immediately."

Skipping several other entertaining types, we come to the Curious or "Nosey" Visitor. Their questions come like shots from a machine gun. How did you happen to come to *this* hospital?

'Why is Dr. Green taking care of you instead of Dr. Brown?' Do you trust your doctors and nurses? Why? "How much are you paying? And so on, and so on. Often this Mrs. Probe is really a scandalmonger—the most deadly of all visitor species—and she tries to nose out some choice morsel of poison. For instance:

Mrs. Probe puts on her most friendly manner and her highly confidential tone of voice and pretending to be the very dear friend of that poor lady in 325, will ask for full information regarding her condition, et cetera. She remarks, "Of course, my dear, we both realize that the hokum in the newspapers about 'appendicitis' is all right for the general public, but, as for us, we both know that the real cause of the illness is something more than that." She's long been aware of the fact that dear Susan hasn't been spending *all* her evenings at the library as she claimed. And of course, *she's* had her suspicions for a long while now. Just what *did* the doctors find out? You can be sure she won't breathe it to a soul.

The supervisor informs Mrs. Probe that all information about patients has to be given out by the patient's doctor. Mrs. Probe splutters with anger, and

departs in a cloud of dust, convinced that there is something wrong, or the nurses wouldn't be so noncommittal.

The most virulent type of Mrs. Probe has even gone so far as to offer to pay for knowledge of the hospitalized friend, especially if it promises to be good material for a class A scandal."

But after poking fun at all these pestiferous callers Miss Price has to admit that not all the visitors are like that. In fact:

"There is a kind of visitor who is most welcome to hospital patients. He is as rare as a snowstorm in July but may be found occasionally. He visits patients at a sensible time. He stays only a short while. He talks of things that really interest the patient, and he does not sit on the bed. Hospitals should encourage such a visitor to call again, for his effect on the patient is beneficial and may lead to direct physical improvement.

There is no doubt that the problem of visitors is becoming acute, and like other problems that have presented themselves from time to time, this one will eventually be solved. The solution will likely be found in training hospital visitors rather than in eliminating or further restricting them. If we can make all visitors the type that are an asset instead of a liability, the kind who work with the hospital staff instead of against it, then we do not need to limit their number or their hours of calling.

### London's "Emergency Hospital Bed Service"

An important advance in hospital administration has been made in the London area by the opening of the emergency hospital bed service. Here tofore the 8 000 physicians practicing in London have lost much time in telephoning from hospital to hospital in search of a bed for an emergency case. The new service, as described in the *J.A.M.A.* is a central clearing house for all the voluntary hospitals, at which information can at once be obtained.

When a physician has an emergency or acute case which he wants to be admitted he rings up this service and is asked his name and telephone number, the patient's name, age and sex, and the diagnosis. If he states the hospital to which he wishes the patient to be admitted, the service will tell him whether a bed is vacant and if it is will book it for him.

If there is no vacancy he will be asked to state his next preference, and so on until his requirement is met. In the case of certain hospitals which have undertaken to bear the cost of an ambulance, the service will also book this. The service will be open every day from 8 a m to 10 p m, and it is intended to extend it in due course to the twenty-four hours.

By a system of colored disks on an indicator board, the staff members of the service are able to tell at a glance whether a bed is free at a particular hospital for a man, woman, or child or for what particular type of treatment it is available. A preliminary working test showed that there are likely to be sufficient beds available to meet the requirements of physicians, and in most cases admission was obtained for the patient within fifteen minutes.

No charge is made for the service, since the cost is met by King Edward's Hospital Fund for London. It should be noted that the service is for the London voluntary hospitals, which all work as independent units. It is not required for the 36,000 beds of the London municipal hospitals, which are under the single control of the county council and therefore already have a co-ordinated system.

### Ethics in Hospital Solicitation

He admits that he dare not sign his name—a manufacturer who supplies items used by hospitals, who writes to *The Modern Hospital* to protest against the practice of some hospitals that ask manufacturers to contribute—under a veiled threat, "or else!" And the editor of the hospital magazine endorses his protest and reports that this "pernicious"

practice "seems to be spreading." Manufacturers and hospital associations "should take a firm stand" against this sort of thing, urges the editor—"a pussy-footing policy will no longer be effective." The anonymous manufacturer signs himself "One Who Would Like to See all Hospital Contacts above Reproach," and his letter reads:

"We are manufacturers of certain items used by hospitals. After you have read this letter, you will understand, and we trust, appreciate why it is that we write you incognito, for while we have the full courage of our convictions, after all, we get our bread and butter from hospitals. While this letter criticizes the action of some hospitals, of course it doesn't criticize all of them.

"The solicitation of contributions by hospitals from companies which are serving them with merchandise is one of the greatest evils existing in the hospital field today. We can understand thoroughly how patients, who have received excellent treatment, would gladly contribute to requests for funds. We think solicitations from people like that are fully warranted. Those living in the territory served by an important hospital, who have been or could be patients of that hospital at any time, could be asked with dignity for assistance in maintaining the proper activities of hospitals, which have been so affected by present and past economic conditions.

"But, any hospital superintendent who approaches a manufacturer who furnishes the hospital with merchandise with the implication, 'You had better come through here, or else there's a chance you won't get a continuation of our patronage,' is doing his own hospital and all hospitals a great injustice. Any company that's in business has got to make a profit to stay in business. If we who furnish hospitals are obliged day after day to make contributions of this sort, there is just one place that they are ultimately going to come from, an increased price to the hospital consumer.

"This situation has existed so long partly because of the fear on the part

of the manufacturer that his business would be greatly injured if it were known that he publicly expressed disapproval of such procedure. We are frank to admit that we cannot initiate an active measure of any sort against such procedure, but certainly you, as the editor of the leading hospital publication of the country, must recognize that what we are telling you is the truth'

### Injection Risks

A patient in a German hospital, suffering from a serious case of pneumonia, was given an injection of luminal into the thigh, developed gas gangrene, and died. The assumption of the doctors who discuss it in a Munich medical journal (*Munch Med Wschr* 85 125 (1938)) is that gas gangrene began at the site of injection and quickly caused death.

The interesting point is that typical *Cl welchii* were found in the 70 per cent alcohol in which the syringe was kept. As related in the *British Medical Journal*, an inquiry at many hospitals showed that in Germany syringes and needles are kept in alcohol as a routine in the wards, being boiled between successive injections or sometimes merely washed with alcohol.

As this method has the authority of a number of text books and was taught in many universities, the medical man was finally exculpated. It is emphasized in the report that Koch as long ago as 1881 showed that anthrax spores resist alcohol, and that Wanke in 1926 traced a death from gas-gangrene to *Cl welchii* spores which were present in the alcohol in which the syringe had been stored. Dalrymple-Champneys and Garrod and Keynes have pointed out the danger of trusting to alcohol for disinfection, in certain conditions staphylococci may survive even for several hours, and spores have been found in material which had been immersed in spirit for twenty years. C G Coulthard and G Sykes, in a review of the literature recording infection by spore-bearing bacteria, stress the failure of ordinary alcohol to kill spores.

They found that by adding 1 per cent of various acids or alkali, or a cresol derivative, the destructive power for spores was considerably increased.

Jungmichel and his colleagues state that the risk of gas-gangrene must be small, for though many deaths from gas gangrene or tetanus following hypodermic injection are recorded, cases of this kind are very rare in the myriads of injections carried out all over the world. They mention that to every experienced hospital superintendent the occurrence of local sepsis after injection is a well known phenomenon. They further conclude that since the spores of *Cl welchii* occur in all garden soil and dust they must be injected very often by patients or by doctors in private practice away from the sterilization resources of a big hospital, and that the spores do not germinate unless the condition of the tissue favors this.

They therefore warn doctors against repeated injections at the same spot, or injection into the buttock at a place where the muscle is subject to injury in ordinary life.

The question then arises, what should replace the condemned practice of storing syringes and needles in alcohol? The ideal is to autoclave every syringe and needle after every injection—an ideal unattainable in practice. The authors suggest that in hospitals syringes and needles should be autoclaved or sterilized by dry heat and each one stored, until used, in a dust proof package. For the doctor in practice the problem is a difficult one, ordinary boiling in water is not sufficient, and the authors finally recommend boiling for ten or fifteen minutes in water containing 3 per cent soda.

Most bacteriologists will agree with the general argument of the German writers, and will advise the prudent practitioner who consults them to boil the syringe and needle for a few minutes in water containing a little sodium bicarbonate, sodium hydroxide, or lysol, and thoroughly to wash the syringe through with sterile water before drawing up the solution to be injected.

## Newsy Notes

The 16th annual "hundred-dollar-a-plate dinner for the benefit of Israel Zion Hospital in December in the Hotel St George realized about \$40,000, according to David N Katz, chairman of the event. Close to 2,000 persons, including jurists, industrialists, business and professional men, were among those present.

The money raised will go toward furnishing the new wing of the institution at 49th St and 10th Ave, Brooklyn. The eight-story building, when opened, will add some 250 beds to the facilities of the hospital, which at the present time takes care of between 460 and 480 patients.

X-ray therapy facilities, creating a Dutchess County Tumor clinic, donated by Herrman A Schatz in memory of the late Dr James E Neighbors, were dedicated formally on December 9 with the unveiling of a tablet at Vassar Brothers' Hospital in Poughkeepsie by Dr Scott Lord Smith. Inscribed on the tablet is "A memorial to Dr James Edward Neighbors who was associated with Vassar Brothers' Hospital from July 1, 1920, to September 13, 1938. By one who loved him."

Edward Benedict Cobb, retired New York and Washington lawyer, who died at Pittsfield, Mass., in November at the age of eighty-nine, left \$100,000 to the Tarrytown Hospital Association under the terms of his will, filed at Washington.

A campaign has been started to reopen St Marks Hospital, at Eleventh Street and Second Avenue, New York City as a free maternity center and baby health station.

## POLAND POINTS THE WAY

Smallpox has become an extinct disease in Poland, where the law on compulsory vaccination and revaccination is strictly enforced. Complications of vaccination are rare, and no cases of

## Improvements

A movement is under way to secure a Veterans' Facility Hospital for the Glens Falls area. The Federal Government has assured those fostering the movement that such a hospital will be built if the need can be proved.

Modernized and enlarged facilities are expected to be ready at the House of St Giles the Cripple in Brooklyn by April 1, it is announced by Juan C. Butts, general manager of the administrative staff.

Of the \$25,000,000 worth of public buildings to be erected in a program of state projects now being planned, Utica State Hospital will receive \$206,000, according to a Utica paper. J B Fordham, steward at the Utica State Hospital, when informed of the appropriation, said his advice was that the hospital would receive an allotment of \$196,000, including \$120,000 for a shop building 50 by 300 feet to contain the print shop and an addition to the cold storage plant at \$76,000.

The Board of Zoning Appeals of the Town of Hempstead has granted the application of the board of trustees of Mercy Hospital for the erection of a new building on the east side of Mill Road, south of the Southern State Parkway, in South Hempstead. The trustees plan to erect a modern four-story hospital building on the site.

Construction and maintenance of a new tuberculosis sanatorium by Orange County is urged by Newburgh's City Council in a resolution adopted at the suggestion of Dr Anthony J Manzella, city health officer.

postvaccinal encephalitis have so far been reported in Poland. In many towns where immunization against diphtheria is also compulsory, protection against the two diseases is carried out at the same time.

# Medicolegal

LORFENZ J. BROSNAN Esq

Council Medical Society of the State of New York

## Practice of Medicine by Chiropractor

A DECISION rendered a few weeks ago by one of the magistrates of the City of New York in a proceeding brought charging violations of the Medical Practice Act is of considerable interest.<sup>1</sup>

The Attorney General acting on behalf of the People of the State of New York charged the defendant with the crimes of having unlawfully practiced medicine and having unlawfully designated himself as a practitioner of medicine.

The matter came up before the magistrate upon an application on behalf of the defendant to dismiss the complaint on the grounds that the facts charged in the complaint would affirmatively show that the defendant was not guilty of the crimes charged.

In order to understand the ruling made by the Court it is necessary to trace in some detail the allegations of the complaint. It seems that the defendant maintained an office, in the windows of which the title 'chiropractor' was displayed. Said title also appeared with his name on his letter box. Certificates were hung in his office issued to him by the Palmer School of Chiropractic, representing him to be a D C and a Doctor of Chiropractic.

Similarly he was also listed in the telephone directory as a chiropractor.

It seems that three investigators were sent to the office of the defendant for the purpose of investigating his activities. It was charged that when the first investigator visited the doctor she complained of pains in her back and frequent headaches, and was told by the defendant that he doesn't practice medicine, diagnose, or prescribe medicines but all he did was to give chiropractic treatments and adjustments. However he applied an

instrument known as a neurocalometer to her back and jerked her head from side to side and manipulated her spine and made arrangements for a series of treatments.

During the course of said treatments the defendant was told of the investigator's complaints, including nausea and vomiting and he told her that he did not believe the nauseousness was caused by his treatment that she must have upset her stomach, that the pain in her back would right itself, and that a preparation which she was using could do no harm. She also asked him about a tumor on her back and after examining it he told her it was not the cause of her backaches and headaches. She also complained to him of a painful injury to her foot and a swollen ankle and he then pressed along her spine and inquired as to whether her foot felt any better to which she answered in the affirmative.

According to the complaint a second investigator called upon the defendant with complaints of severe headaches, a clogged nose, and sleepless nights because of difficulty in breathing and because of pains 'from her nose through her eyes up to the top of her head.'

The chiropractor inquired concerning possible connections between her headaches and her menstrual periods and in the course of his conversation with her he told her not to worry and that she would leave his place minus the headache. He likewise applied the neurocalometer against her back and manipulated her spine and on a subsequent occasion he explained that her pain came from nervous pressure. He refused to suggest a diet for her but advised other forms of relief and told her to patiently continue with his treatments.

A third investigator went to him with complaints of pains in her back and was told that he would not diagnose her case but would give her adjustments because

<sup>1</sup> People vs Zinke

Decided November 18 1938.



it was against the law to tell her what was wrong with her, or to tell her that he could help her. She told him that she had pains in her back and wanted him to help her and he likewise administered to her a treatment which included jerking her head from side to side and manipulations of her spine with his hands. A fee was charged for three treatments and on a later visit the investigator told the defendant that she had been quite sick and was assured by him that she must have patience and that everything "would work out all right."

She also complained to the chiropractor on one occasion of the fact that she was suffering from bleeding hemorrhoids and that she expected her menstrual period any day and asked if it would be all right to be treated under such circumstances. She was told that on the contrary his treatment would help her and as to clearing up the hemorrhoids she should "just wait and see." A stomach complaint was also called to the attention of the chiropractor by the third investigator and she was told that it might be gas but that she should not worry about it as he was sure she would be all right.

The foregoing summarizes the salient features of the complaint. The defendant claimed that from the complaint it did not appear that he had held himself out as able to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition. He contended that the charges actually negated the violation charged since it appeared from the charges that he had informed the investigators that he didn't practice medicine and that he did not diagnose cases but would just give adjustments. The court, however, ruled that the complaint sufficiently charged the defendant with the crimes of illegally practicing medicine so that he should stand trial for the offenses charged. In so ruling the Court said in the opinion:

"The Court finds that there was directly and by inference a holding out by defendant that he was able to perform one or more of the prohibited acts. He displayed certificates bearing his name as a "Doctor of Chiropractic" and signs

bearing his name as a "chiropractor" and he listed himself as a chiropractor in the telephone directories. These signs and certificates are in themselves presumptive evidence of a holding out under the statutory presumption above set forth—the titles "doctor" and "chiropractor" carry with them definite implications that the possessor of those titles is able to treat bodily conditions.

"The whole set up of defendant's office, attendant, dressing rooms and split-back robes, neurolometer, and articulated table, all have a direct bearing on the holding out—they consisted of equipment of one who uses same as preliminary to and in the actual treatment of physical conditions. One of the investigators inquired of defendant whether she had sinus and he told her that she should not worry and she would leave his place "minus" the headache and she should continue with his treatments and have patience—certainly thereby he represented he was able to treat her conditions. He told another investigator that his treatment would not harm her menstrual condition but would help her and as to her hemorrhoid condition she should just wait and see, and that she should not worry, for he was sure she would be all right—one making such statements must be deemed to have held himself out as being able to make that person "all right" by his treatments.

"Aside from the direct holding out, there is an implied holding out from the acts performed. From the taking of the histories of the patients and his subsequent treatments and the acceptance of compensation therefor, there is an inference of a holding out. The Court of Appeals has held, in a case involving the practice of chiropractic, that in offering to treat a person, the practitioner holds himself out as qualified to give treatment.

"In view of the statements made by defendant and his acts, all constituting a holding out, any negation of a holding out by defendant cannot be viewed seriously. If any such negation were considered controlling in the circumstances here existent, the medical regulations could readily be nullified and rendered a dead letter. To this Court, the negation is but a false pretense, for defendant proceeded to perform the very acts which he pretended he did not perform. And defendant's use of the terms "chiropractic treatment" and "adjustments" is nothing more than an effort to evade the statute and the Court will not be taken in thereby (*Kuechler vs Voigman*, 192 N W 1015). In that case, the Supreme Court of Wisconsin, after holding that the defendant-chiropractor undertook to diagnose and treat, said 'Diagnosis is ordinarily assumed and

performed by licensed medical or osteopathic physicians. But it may be assumed by others, and it is held that the practice of chiropractic is the practice of medicine. And the fact that chiropractors abstain from the use of words like "diagnosis," "treatment," or "disease" is immaterial. What they hold themselves out to do and what they do is to treat disease and the substitution of words like "analysis," "palpation" and "adjustment" does not change the nature of their act.'

**Defendant diagnosed.** His history taking examination with the use of a neurocalometer and his statements as to the causes of conditions of the investigators show that he had made a determination which he deemed sufficient for the purposes of treatment. The term diagnosis is derived from the Greek prefix *dia* meaning between and *gignoskein* meaning to discern. It is, in modern terminology a 'sizing up' or a comprehending of the physical or mental status of a patient. It is the conclusion itself rather than the procedures upon which the conclusion is based which constitutes a diagnosis *per se*. No particular language need be used and no disease need be mentioned, for the diagnostician may make or draw his conclusion in his own way.

**Defendant undertook and offered to treat.** The definition of the practice of medicine states that the treatment may be by any means or method. Defendant's method was manipulation of the spine—what is known as the practice of chiropractic. In 11 Corpus Juris 758 chiropractic is defined as 'A system of healing that treats disease by manipulation of the spinal column.' It is said in *Brown vs. Skynne* 242 N.Y. 176 183 'We readily see therefore that the chiropractic doctor holds himself out to treat and cure sickness and disease by the readjustment of the spinal column and the proper alignment of the vertebrae.'

'This court is not concerned on defendant's motion to dismiss with whether chiropractic treatments are beneficial or injurious. The only question is whether the facts stated in the complaint show that defendant violated the law. The proof at the trial will necessarily be confined to the particular acts which it is claimed constitute a violation. But in view of contentions of defendant as to the purpose of the statutes regulating the practice of medicine this Court desires to emphasize that the legislature of this State has in its wisdom recognized the necessity of protecting the people by prohibiting those not licensed from meddling with their health. Especially is that important as to female sufferers who enter the office of an unlicensed practitioner where they are required to partly

disrobe and then submit to various forms of bodily manipulations.'

### X-Ray Treatment of Psoriasis

A man about forty years of age consulted a physician who specialized in dermatology with respect to a condition of psoriasis from which he had been suffering for approximately eighteen years. He told the doctor that he had used various types of medication in the treatment of the condition and that when it had become severe he had used chrysarobin on his right arm. The examination showed an irritation due to chrysarobin on the right arm and that the patient was suffering from psoriasis all over his body manifested by whitish, raised lesions covered by scales.

The doctor administered a series of x ray treatments to the patient which were continued from time to time over a period of about five weeks. These treatments were administered to various parts of the body but at no time was any x-ray therapy given to the right arm where chrysarobin had been applied. After the x-ray treatments, the patient developed exfoliative dermatitis on his back, flanks, and right shoulder. The defendant undertook to treat the condition on two occasions following the last of which, although he was instructed to return, he never again appeared for treatment. It was ascertained, thereafter, that the patient was hospitalized for a period of about six weeks for the purpose of undergoing treatment for exfoliative dermatitis.

A malpractice action was instituted against the physician in which the charge was made that the defendant had negligently administered the x ray treatment to the patient causing the exfoliative dermatitis to develop.

The case came on for trial before the Court and a jury and the plaintiff claimed that the defendant had improperly superimposed x ray therapy upon a region previously treated with chrysarobin and that as a result of such alleged improper treatment exfoliative dermatitis developed. The defendant denied the claim

and asserted that he had never applied x-ray therapy to the portion of the body in question. The issues in the case were submitted to the jury and a verdict in favor of the defendant was returned thereby exonerating him of all charges of malpractice.

### Removal of Scar by Plastic Surgery

An ex-soldier, thirty-six years of age, consulted a surgeon who specialized in plastic surgery with respect to the removal of two scars. The doctor found a small scar below his lower eye-lid and a scar  $7\frac{1}{2}$  cm long by  $4\frac{1}{2}$  cm wide, flat and introverted, on his neck at the junction of the lower mandible.

The doctor had the patient enter a hospital where, under a local anesthesia, he excised the neck scar and drew the edges together and with silk paraffin sutured the edges together. The patient remained in the hospital ten days and the

surgeon attended him during that time following which at his office he excised the eye-lid scar, drew the edges together, and sutured them. He saw the patient from time to time over the following period of three months and at the end of that time the scars were healed and nothing was present at the site of the scars except two fine lines.

A malpractice action was brought against the doctor in which the charge was made that by reason of the negligent manner in which the operations had been performed, the plaintiff was caused to suffer severe pains throughout his body and limbs and to suffer from nervousness, dizziness, and weakness. The case came on for trial before a Court and jury and the plaintiff failed to establish that in any respect the defendant had failed to follow proper practice in the treatment rendered. At the conclusion of the testimony on behalf of the plaintiff, the case was dismissed on the motion of the attorney for the defendant.

### THE LONG-WHISKERED DOCTOR OF THE STORY BOOKS

An English journal which calls itself "The Economist" ends a short article on "Doctors and the Public" with,

"The doctors will enjoy the respect of the public to precisely the same degree that they do not behave like a commercial vested interest."

It is said the whole world loves a lover, but apparently if any such regard is held for the doctor in this country as in Great Britain, it is a very special type of doctor, replies the *Journal of the Indiana State Medical Association*. He is the country or city practitioner with a full beard who answers all calls day and night, keeps no books, sends no bills, dies at fifty-five of a coronary occlusion, and leaves to his wife and children a doubtful future.

A physician has no right, it seems, to watch after his own interests and make himself an income sufficient to take care of his overhead and have a little left over for life insurance. Strangely, no patient, even if he doesn't intend to pay, wants to have a doctor drive up to his place in a jalopy car. His doctor must maintain a good looking car and a properly furnished

office. However, if such is the appearance of prosperity, the patient figures that the doctor must not need the money and worries not when he pays.

The public has taken to itself the picture of the self-sacrificing, charitable physician and does not care to lose it. This is proper and we as physicians should do our best to maintain this picture of charitable self-sacrifice, but we have a right and a duty to be practical business men as well.

Recently a physician told of meeting a nurse who had been with him on an obstetrical case many months previously. She asked, "Doctor, did you ever get any pay for that case I helped you with last year?"

"No!" was his reply. "I haven't heard from them since. Did you get your money?"

"No, doctor, I didn't either," she answered. "And I heard later that the husband was worried as to whether you got home all right. It seems that while we were in the house delivering the baby, he was outside siphoning the gasoline out of your car!"

# Across the Desk

## "Syphilitic Scars of the Spirit"

**T**HE success or failure of a life may hang on the attitude of the doctor at the first visit of a patient with syphilis, declared Dr Austin W Cheever, of the Harvard Medical School, in a paper with the above title read at the annual meeting of the Massachusetts Medical Society. And that is a thousand times more important than the mere success of the medical procedure. The man or woman is more than the disease, and the treatment should be more than "just what can be pressed through a needle into a vein."

One attitude by the doctor, and the patient is encouraged to face life with hope and win the battle, another attitude, and he or she jumps in the river. "By all odds, the most important contact between patient and physician is the first one," declares Dr Cheever, and "in a busy practitioner's office, regardless of the dozen patients in the waiting room, the one with suspected syphilis must be considered that day's emergency." Failure may ruin a life.

### How Not to Do It

Take the brutal remark of a doctor to a young woman whose infection turned out to be a wedding present from her husband. The doctor, however, made no effort to find how she came by it. He told her the treatment would cost a thousand dollars, and when she said she could not possibly afford it, he retorted:

"Go out on the street and earn the money the same way you got the disease!"

The result was that she fled from his office, and it was three months before she could muster the courage to go to another doctor. By good fortune it was Dr Cheever. But three months had been lost, and an extremely disfiguring rash had developed.

The golden opportunity of the first consultation had been mishandled.

At the first visit, says Dr Cheever

"One must explain in simple, straightforward language what is ahead of the patient that the recurrences, disappointments, chances of infection of the mate, danger of having congenital syphilitic children, and serious or even tragic late complications, such as actually used to occur not rarely under the old mercury regime, can all be controlled now, provided adequate treatment is given and the patient does his part by co-operating and taking treatment properly. Even the seemingly worst situations, such as a young couple with early syphilis and the girl pregnant, need cause but little alarm, for if the case is properly handled the probability is that the parents will be cured and the fetus saved."

### Danger of Explosions

An emotional explosion may occur when the patient learns the diagnosis, and threats of suicide are sometimes uttered—but seldom carried out. Another reaction, "What's the use? Why try to be good any more?" may lead to moral and physical disaster. Has the physician no duty in such cases? Dr Cheever relates an instance that came under his own observation.

"A very highstrung but likable boy had been coming to the hospital clinic for several years for treatment of congenital syphilis. When he became a college freshman he happened by accident to see the diagnosis on his record. He said nothing to anyone of his discovery, nor did he give a hint that he was upset by it, but went immediately to a ticket office of one of the air lines and bought a ticket home to a far western state.

"Very fortunately he talked in his sleep. His room mate heard him and found out what the boy planned to do, namely to go home and kill his father. The room mate

tried to argue him out of it, and when this did not work tried to get the air line to cancel the passage. They refused, thinking it was some college prank. There was only one course left for the roommate, and he took it.

"Both boys went to the airport, there the room-mate staged such a row that the pair were arrested, and naturally the passage was canceled. Later an understanding doctor took this boy in hand and explained the entire case to him so carefully that he was able to realize just how hot-headed and foolish his previous attitude had been."

### Making the Flesh Creep

Then, too, the popular mind is filled with wrong ideas and old prejudices, handed down from bygone years of ignorance. Grandma's "doctor book" reeks with lurid tales of the horrors of syphilis as they occurred seventy-five years ago, when cases were recognized only by the ravages of the disease, and when a victim happens to open it at that page, the hair rises, shivers chase up and down the spine, and the flesh creeps. Even patients waiting in the clinic seem to delight in exchanging remarks that would give anyone the horrors.

Years ago, Dr. Cheever recalls, a young woman came to the clinic with secondary syphilis, stating that there was a history of just one contact, her fiancé. Examination of the fiancé "revealed an accidental syphilis with a trivial primary lesion of the lip and a rash so faint that its significance had never dawned on him." Both remained under treatment and subsequent semiannual examination six or seven years, when it was noticed that the woman was losing weight rapidly. Questioning revealed that she had heard people say that syphilitics should never marry. She was encouraged to marry at once, her weight returned to normal, and she seemed to grow ten years younger. "I believe," says Dr. Cheever, "we had failed dismally on our first contact with that patient."

### A Word to Employers

Another widespread error is the prejudice against employing those who have had syphilis. "A known syphilitic under treatment is of no possible danger to his fellow man," says Dr. Cheever, and he believes (and hopes) that many such are employed in the Massachusetts General Hospital and other hospitals, for it is now the accepted policy to try to find them employment. He adds:

"How unfair is the refusal of a housewife to give work to a nursemaid with congenital syphilis, whose infectiousness was spontaneously cleared up perhaps twenty years ago while she was still an infant! Yet do we do all we can to explain such circumstances to the layman?"

"A case in point, occurring about two years ago, remains in my memory, for though the girl was not badly marked, any third-year student would have recognized her Hutchinsonian teeth and hazy corneas.

"The prospective employer had a fit of terror and even threatened fumigation of the house after the first few minutes of the interview. The family physician seems to have agreed with the employer, her pediatricist tried to make her see the light, but to no avail. The young woman has since proved her lack of infectiousness by marrying and having a perfectly healthy baby."

### One Guess Allowed

The impressive statement that syphilis could be stamped out in this country by an expanded public health program costing \$25,000,000 a year for ten years is made in a pamphlet called "Behind the Syphilis Campaign." In contrast, it now costs \$41,000,000 a year to care for the victims, or more than is needed to stamp it out.

But will Congress, strewing its billions here and there, like an inebriated mariner, appropriate the \$25,000,000 to do it?

You guessed right the first time

W S W

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**Medicine for Nurses.** By C. Bruce Perry M.D. Duodecimo of 211 pages. Baltimore, William Wood & Company 1938. Cloth \$2.00

**Adventures in Respiration. Modes of Asphyxiation and Methods of Resuscitation.** By Yandell Henderson. Octavo of 310 pages. Baltimore. Williams & Wilkins Company 1938. Cloth, \$3.00

**Pathological Technique. A Practical Manual for Workers in Pathological Histology including Directions for the Performance of Autopsies and for Microphotography.** By Frank B. Mallory M.D. Octavo of 434 pages, illustrated. Philadelphia, W. B. Saunders Company 1938. Cloth \$4.50

**The American Illustrated Medical Dictionary.** By W. A. Newman Dorland M.D. Eighteenth edition. Octavo of 1607 pages, illustrated. Philadelphia, W. B. Saunders Company 1938. Cloth \$7.00 Plain and \$7.50 with Thumb Index.

**Handbook of Practical Bacteriology. A Guide to Bacteriological Laboratory Work.** By T. J. Mackie, M.D. and J. E. McCartney M.D. Fifth edition. Duodecimo of 580 pages. Baltimore, William Wood & Company 1938. Cloth \$4.00

**Fever for Nurses.** By Gerald E. Breen M.D. Duodecimo of 109 pages, illustrated. Baltimore, William Wood & Company 1938. Cloth, \$2.00

**A Textbook of Gynecology.** By Arthur H. Curtis, M.D. Third edition. Octavo of 603 pages, illustrated. Philadelphia W. B. Saunders Company 1938. Cloth, \$7.00

**Scientific Literature of the U.S.S.R.—Medicine, 1933.** By the Bureau of Medical Bibliography of the All Union Institute of Experimental Medicine. Moscow 1936

**The Vitamins and Their Clinical Applications. A Brief Manual** by Prof. Dr. W. Stepp. Doz. Dr. Kühnau and Dr. H. Schroeder. Translated by Herman A. H. Bouman M.D. Quarto of 173 pages. Milwaukee. The Vitamin Products Co. 1938. Cloth \$4.50

**The Troubled Mind. A Study of Nervous and Mental Illnesses.** By C. S. Bluemel M.D. Octavo of 520 pages. Baltimore. Williams & Wilkins Company 1938. Cloth \$3.50

**The Complete Pediatrician.** By Wilburt C. Davison M.D. Second completely rewritten edition. Octavo of 250 pages. Durham. Duke University Press 1938. Cloth \$3.75

**The Vitamins and Their Clinical Applications. A Brief Manual** by Dr. W. Stepp. Doz. Dr. Kühnau and Dr. H. Schroeder. Translated by Herman A. H. Bouman M.D. Quarto of 173 pages. Milwaukee, The Vitamin Products Company 1938. Cloth \$4.50

**Diseases of the Skin for Practitioners and Students.** By George C. Andrews M.D. Octavo of 899 pages, illustrated. Philadelphia, W. B. Saunders Company 1938. Cloth, \$10.00

## REVIEWED

**Essentials of Psychiatry.** By George W. Henry. Third edition. Octavo of 465 pages. Baltimore, Williams & Wilkins Company 1938. Cloth, \$5.00

This book covers the essentials of psychiatry in a simple, comprehensive manner that should appeal to either a student or practitioner. In this third edition there is considerable new material which brings it up to date. Personality development and disorders of the personality pave the way for the study of the more specific

mental reactions, and the actual case records that are exhibited serve to illustrate the practical application of psychiatric principles. The author's extensive experience in hospital practice enables him to cite many cases that show the constant close relationship of psychiatry and general medicine. Other outstanding chapters are those on treatment, nursing, psychopathology of the normal, disorders of childhood, and psychiatry in general hospital practice. The subject is well

rounded out, and the book should be a distinct help to the student and practitioner

A E SOPER

**A Textbook of Clinical Pathology.** Edited by Roy R. Kracke. Octavo of 567 pages, illustrated. Baltimore, William Wood & Company, 1938. Cloth, \$6.00

This textbook of clinical pathology is written by a group of experts, teachers, and practitioners of laboratory medicine, and each a specialist in the topic under discussion. The text is clearly written and profusely illustrated. It correlates the laboratory findings with the diseased processes, and should be of great aid to practicing physicians and students in the diagnosis and treatment of disease.

EDWARD H. NIDISH

**Materia Medica, Pharmacology, Therapeutics and Prescription Writing for Students and Practitioners.** By Walter A. Bastedo, M.D. Fourth edition. Octavo of 778 pages, illustrated. Philadelphia, W. B. Saunders Co., 1937. Cloth, \$6.50

As a standard textbook for students and a reference book for practitioners the author of this work, now in its fourth edition, is to be complimented for its excellence. Since its first edition, it has ranked foremost in books on this subject because of Dr. Bastedo's rich experience in the fields of pharmacy, medicine, and as a teacher of pharmacology. The splendid way in which the various topics are presented adds much to its practical value as a reference book. The entire text has been revised and many of the newer drugs have been included among which are coramine, cyclopropane, dinitrophenol, mandelic acid, metrasol, pentnucleotide, progestimine, protamine-insulin and its zinc compounds, sulfanilamide (prontylin), and other remedies. The toxic effects of the more recent drugs are also included such as aminopyrine, cinchophen, dinitrophenol, and others. The chapter on prescription writing is not as complete as it might be and could be improved upon for the benefit of those who

lack fundamental training in pharmaceuticals which is sadly omitted in the curriculums of most of our medical schools. It would be impossible to comment upon the many drugs considered in this work but outstanding is that of digitalis in connection with which are many electrocardiographic illustrations showing the effect of overdosage, heart block, extrasystoles and auricular flutter, auricular fibrillation, and other disturbances causing cardiac dysfunction. This volume, written in the usual clear, simple style of the author, is highly recommended to those who desire an authoritative work on this subject.

F. SCHROEDER

**The Therapeutic Problem in Bowel Obstructions.** A Physiological and Clinical Consideration. By Owen H. Wangensteen, M.D. Quarto of 360 pages, illustrated. Springfield, Charles C. Thomas, 1937. Cloth, \$6.00

It is easy to see why the first part of this book received the Gross Prize from the Philadelphia Academy of Surgery. It is not only interesting to read, but is one of the most important books published in a long time. It summarizes the enormous amount of experimental work on intestinal obstruction done by the author and his associates, and describes in detail the procedures necessary to insure a lower mortality in the treatment of this so usually fatal condition.

Part I is largely devoted to reports of researches indicating that the two important factors in obstruction are the effects of distention on the viability of the bowel and the loss of fluids due to vomiting, failure of absorption and blood loss. Criteria for recognition of obstruction are described, and treatment—by saline, blood transfusion, decompression by duodenal tube and operation—is dealt with in detail. Part II takes up general considerations of diagnosis and treatment of bowel obstructions, covering every subject in clear and minute detail. Part III includes a discussion of each of the many causes of obstruction and the special

diagnostic and therapeutic measures indicated in each type.

This book is an extremely valuable reference work, and should be owned and frequently referred to by the general practitioner as well as by the specialist

A F R ANDRESEN

**A Diabetic Manual for the Mutual Use of Doctor and Patient.** By Elliott P Joslin M D Sixth edition Octavo of 210 pages illustrated Philadelphia Lea & Febiger, 1937 Cloth \$3 00

Again we welcome an edition, the sixth, of this most popular volume on diabetes. Meant for the doctor as well as the patient, this little book gives an excellent bird's-eye view of the disease and its treatment in simple intelligible form. It breathes into the patient, by its dramatic handling of cold statistics and its numerous diabetic parables, a sense of encouragement to effort and a reassurance that all will be well if he but "plays ball" with his doctor

Questions and answers typical of those between patient and physician are presented "Diabetic arithmetic" is explained. Diet, hygiene, urinalysis, insulin administration, and diabetic complications are well presented for the patient's use. Prognosis, etiological factors, and preventive measures are duly covered. Twenty pages are devoted to tables of composition of common foods

GEORGE E ANDERSON

**Manual of Human Dissection.** By Edwin M Shearer Ph.D Quarto of 321 pages illustrated. Philadelphia, P Blakiston's Son and Company 1937 Cloth, \$4.25

Dr Shearer has achieved an unusual clarity in his conveniently sized *Manual of Human Dissection*. The work is ably brief. It provides at the same time a coordinated view of areas to be studied and a guide to the laying bare of individual structures. The book is sturdy and has a washable binding. The print is of restful size. A helpful diagrammatic clarity characterizes the ample illustrations. Dr Shearer has removed the need for struggling with his subject matter because

of his decisive writing and splendid teaching ability

CARLETON CAMPBELL

**A Practice of Orthopaedic Surgery** By T P McMurray, M B Octavo of 471 pages illustrated. Baltimore William Wood & Company, 1937 Cloth, \$5 00

Dr McMurray describes orthopedic surgery as the surgery of the framework of the body—a rather new and expressive thought. He comments on the difficulty of outlining the scope of this specialty, but reduced to its simplest terms it is, says the author, the surgery "concerned with injury, deformity, or disease of the spine and extremities." He is conservative in his therapy, urging that "extensive operations be avoided as far as possible." His broad concept of medicine is the key note of the volume. The gentle approach of the physician to his patient is also emphasized, a theme which even in this day and age of practical psychology bears repetition

A chapter on splints clearly demonstrates the depth of sentiment and loyalty which he has nurtured for the memory of Owen Thomas and Sir Robert Jones. The principles are sound, and the brace construction simple, which, after all is what one wants

The problem of adhesions about joints is well presented, and the note of warning sounded again against "free manipulation of the stiffened elbow or finger." This chapter is replete with aphorisms quite like the one quoted

Five chapters are devoted to tuberculous arthritis, with the orthodox plea for obtaining ankylosis to insure a cure. This lesion of the bones is fast disappearing from clinics in this country, probably due to our meticulous system of regulation of the milk supply, but abroad it is still a problem of magnitude. The arthritides, rheumatoid, and chronic hypertrophic arthritis, are appraised briefly. Spinal conditions are presented in an inviting and understandable manner

The chapters on obstetrical paralysis, poliomyelitis, and congenital dislocation



of the hip are well-worth reading. A rather clever manipulative measure for the relief of pain in tennis elbow is described under affections of the muscles and tendons. Rickets, Paget's disease, osteomyelitis, and bone tumors are also discussed.

The scope of this volume is broad, the text full of splendidly condensed fact, and the treatment practical, and in the main, simple. This is a very good book by a disciple of the Dean of English Orthopedists, Sir Robert Jones, and should be a valuable adjunct to any library.

DONALD E. MCKENNA

**A Monograph on Veins.** By Kenneth J. Franklin, M.D. Octavo of 410 pages, illustrated. Springfield, Charles C. Thomas, 1937. Cloth, \$6.00.

This excellent monograph presents a comprehensive survey of the heretofore inadequately summarized knowledge of the anatomy, physiology, and pathology of the veins. The information given is most complete, yet the style of presentation is simple and readable. This book is recommended to all those interested in the veins, whether they be anatomists, physiologists, or clinicians.

An excellent bibliography is given.

G. B. RAY

**Medico-Legal Aspects of the Ruxton Case.** By John Glaister, M.D., and James C. Brash, M.D. Quarto of 284 pages, illustrated. Baltimore, William Wood & Company, 1937. Cloth, \$6.00.

This book is unique in medicolegal history. We have never read nor seen murder handled with such meticulous care. Every piece of human remains, every article of clothing, in fact any material that might shed light on the reconstruction of the crime was used to the utmost. That the dead can be made to speak and speak the truth is certainly well illustrated. "Dead men are made to tell tales." It is a book that is of peculiar interest to the coroners' physicians, medical examiners, police prosecutors, and lawyers, illustrating the modern methods

and application of newer knowledge to the detection of crime. The book is profusely illustrated by finely detailed pictures. There is an excellent account of reconstruction of human remains, the careful preservation of evidence, how sex, age, and stature of bodies may be determined, and methods used in establishing the identity of the bodies by fingerprints, dental evidence, and other special markings.

It gives in detail what advantage may be obtained from blood examination by application of serologic precipitation tests and how evidence is best presented at murder trials. We are sure that after reading this remarkable book, those immediately interested in forensic medicine cannot help but be stimulated by this to more careful work and better effort.

M. EDWARD MARTEN

**Modern Dietary Treatment.** By Margery Abrahams, M.A., and Elsie M. Widdowson, Ph.D. Duodecimo of 328 pages. Baltimore, William Wood and Company, 1937. Cloth, \$3.25.

This book written by practicing dietitians presents the subject of nutrition in health and disease in simple easy English. The first part is devoted to the general principles of dietetics, the second part touches on various pathological states in which dietary treatment may be indicated with both the "why" and the "how." The third part gives specific diets applicable to these diseased states together with many recipes. Tables of chemical composition of foods are appended.

There is nothing unique in form or subject matter. The book is recommended as a good elementary text on the subject of nutrition and dietetics.

GEORGE E. ANDERSON

**A Primer for Diabetic Patients.** An Outline of Treatment for Diabetes with Diet, Insulin and Protamine Zinc Insulin. By Russell M. Wilder, M.D. Sixth edition, reset. Duodecimo of 191 pages, illustrated. Philadelphia, W. B. Saunders Company, 1937. Cloth, \$1.75.

Every effort made to popularize the knowledge of the diabetic state will meet with the approval of the conscientious practitioner. Dr Wilder's sixth edition of his *Primer* includes mention of protamine zinc insulin and also the hereditary aspects of diabetes. Special mention is deserved by the quiz section at the end of each chapter, a feature which makes more compulsory the reviewing of the material read previously. The special section by Paul L. Tarara, Chiropractor to the Mayo clinic, on the importance of the care of the feet is also a feature frequently overlooked.

DAVID GLUSKER

**Approved Laboratory Technic. Clinical Pathological, Bacteriological, Mycological, Parasitological, Serological, Biochemical and Histological.** By John A. Kolmer, M.D., and Fred Boerner, V.M.D. Second edition. Quarto of 803 pages, illustrated. New York, D. Appleton Century Company 1938. Cloth \$3.00.

The first edition of this book enjoyed wide popularity, especially among pathologists and laboratory technicians. The second edition deserves even greater usefulness because of its completeness. In this edition, the authors have covered the laboratory field widely and well, and in the compass of a single volume have been able to supply both detail and quantity.

In addition to a revision of the older text, there have been many additions. New chapters have been added on—the methods for the hormone diagnosis of early pregnancy, hydatidiform mole, chorionepithelioma, teratoma of the testis, on diagnostic mycological methods, on methods of examination of the skin and mucous membranes for animal parasites, on methods for conducting tests for allergy, and on histological methods of preparation of museum specimens. A departure from the first edition is the preparation of many of the chapters by a group of collaborators who are recognized authorities in the fields about which they write. Special commendation is due to the authors for the stress laid on the field of mycology and parasitology, a branch of

laboratory medicine that has until now received but scant attention in volumes of this kind.

A chapter worthy of mention is the one dealing with the methods for examining feces. This is singularly complete and is adequately illustrated by many actual photographs of the various parasites found in the stool.

The section dealing with general bacteriologic methods will be found to be very useful, and the various tables dealing with the identification of the common pathogenic anaerobes will no doubt be a great help to the bacteriologist. It is unfortunate that such scant information is provided in the section dealing with the serological types of pneumococci, and there has not been sufficient stress laid on the importance of the so-called Group IV pneumococci as virulent pathogenic types producing typical and often fatal pneumonia. The reviewer feels that it is erroneous to state that strains belonging to Group IV are the least virulent. Similarly, in the Neufeld reaction, little or no stress is laid on the significance of cross reactions.

All in all, the authors are to be commended on the thorough revision of what is already becoming a standard text. This volume deserves a place in the library of every clinical laboratory, and will be found useful by practicing physicians who perform the simpler laboratory tests for themselves.

THEODORE J. CURPHEY

**An Introduction to Dermatology.** By Richard L. Sutton, M.D. and Richard L. Sutton, Jr., M.D. Third edition. Octavo of 666 pages, illustrated. St. Louis: The C. V. Mosby Company 1937. Cloth, \$5.00.

This is, indeed, an excellent introduction to dermatology, for, despite the fact that it is a fairly small book, it is quite complete. If one wishes to get something of the groundwork of this subject—to quickly and surely obtain the basic facts of anatomy, and physiology of the skin, the general outlines of etiology and

therapy, and to learn the primary and secondary lesions of the skin, together with the distribution of lesions according to type and topography, he will read carefully the first eighty-five pages of text

Following this we find descriptions of the various cutaneous maladies that have been grouped under a more modern classification, wherein the diseases due to viruses, bacteria, plant, and animal parasites, etc., have been removed from their old arrangement and honored with separate groupings. Modern understanding of dermatology is evidenced clearly by the rewritten portions of the book, by the inclusion of a number of diseases previously omitted, and by the revision of the therapy of syphilis to conform with the findings of the Cooperative Clinical Group

Numerous excellent photographs, many of them new, are scattered throughout the text. For clarity of presentation and comprehensiveness, this book is worthy of inclusion in any library

E ALMORE GAUVAIN

**The Surgery of the Sympathetic Nervous System** By George E Gask, F R C S, and J Paterson Ross, M S. Second edition. Quarto of 191 pages, illustrated. Baltimore, Wilham Wood & Company, 1937. Cloth, \$4.50

This book is a second edition setting forth some of the further experiences of the authors in the surgery of the sympathetic nervous system. As in the first edition there is a good, briefly stated account of the Anatomy and Physiology of the Sympathetic System, however, no comparable description of the so-called parasympathetic system. In turn there are chapters on Sympathectomy for Disorders of the Circulation, Sympathectomy for Disorders of the Visceral Motor Mechanism and Sympathectomy for pain. Approximately two-thirds of the book is given to a discussion of the surgical treatment of vascular disorders of the extremities. The methods used for sorting out the particular circulatory disturbances that respond favorably to operations on the sympathetic system, have been dealt

with in considerable detail. An opinion has been expressed by the authors that the late results of sympathectomy depend mostly upon the nature of the disease and not upon the powers of the sympathetic nerves to regenerate. This contribution represents the advancements that are being made in this particular branch of surgery and it is recommended as an objective presentation of the present day knowledge on the subject.

JEFFERSON BROWDER

**Physicians' Vitamin Reference Book.** Presenting to the Clinician a Useful Compendium of the Latest Facts About Vitamins. By the Medical Division, Professional Service Department, E R Squibb & Sons. Duodecimo of 126 pages, illustrated. New York, E R Squibb & Sons, 1938

This is a well arranged small book of the present day clinical thoughts on the vitamins. At the beginning of each section for the vitamin considered is a full page summary with the headings synonyms, chief deficiency symptoms and signs, diagnostic methods, Average Daily Requirement, Sources (Foods and Pharmaceutical Products), Uses, Chemical Formula, Stability, Precursor, and Unit of Potency. These and the well balanced list of reference headings given at the bottom of each page of text add to the value of this work.

It can be recommended as an up to date reference on the vitamins for the medical practitioner.

PAUL C ESCHWEILER

**Personality and Other Things (a Semi-Autobiography)** By Harold Hays, M D, Octavo of 163 pages. New York, The American Physician, Inc., 1937

Dr Hays is a well known otolaryngologist who has many interests outside of his own particular field, among these are psychology and writing.

The present book is his own views on personality and how to lead a happy and contented medical life. The book is essentially autobiographic in character, but is written with a view of pointing out little things in life that spell success or

failure to the average physician. It is written from a human angle, and relates experiences of the author as well as those of other physicians, many of whom have achieved fame and reputation. There is much in the book that may be read with profit not only by the doctor but also by the layman. There is an appended story written by the author in 1917 while he was in the front lines with a field ambulance of the British Army, which adds to the interest of the book especially in view of the modern undeclared wars.

The book is recommended as a valuable manuscript—both entertaining and instructive.

IRVING J. SANDS

**Disease and the Man.** By Roger F. Lapham, M.D. Octavo of 143 pages. New York: Oxford University Press, 1937. Cloth \$2.00.

This is an interesting contribution to the ethics and etiquette of medicine. It should appeal particularly to the younger groups of medical men in their earlier years of a career, which, perhaps more than any other, is in touch with a combination of the frailty of human nature and a science which is ever struggling toward exactness. The author has vision, clarity of expression, and high ideals, which give evidence of a cultural background. In 145 pages he presents clear pictures of the relationship between patient and doctor from many angles, and suggests practical methods in the handling tactfully of difficult situations. The book is full of good, sound common sense and should be a welcome addition to the libraries of physicians who, for lack of experience which time only can bring, find themselves in need of reliable advice.

J. M. VAN COTT

**Obstetrics for Nurses.** By Joseph B. DeLee, M.D., and Mabel C. Carmon, R.N. Eleventh edition. Duodecimo of 659 pages illustrated. Philadelphia, W. B. Saunders Company, 1937. Cloth, \$3.00.

This standard and practically universally accepted American text on obstetrics for nurses has recently appeared in its eleventh edition. As Dr. DeLee states

in the preface, "it is now thirty-three years since the first edition of this work." The eleventh edition has been notably enlarged by the collaboration of Miss Carmon, Instructress in the birth rooms of the Chicago Lying-in Hospital. It is of interest to note that Dr. DeLee states that he obtained this collaboration "because of the growing hospitalization of maternity cases and the need of a fuller consideration of institutional technic."

The fundamentals of nursing obstetrics are presented in the clear and concise manner so characteristic of Dr. DeLee as a teacher and author. The portion of the text devoted to nursing during labor and in the puerperium warrants special comment because of the complete manner in which surgical aseptic technic from the nursing standpoint is presented.

This edition brings up to date the already established reputation of the text as a foundation work for nurses. It must occupy a prominent place in the list of required reading in all training schools for nurses. It may well be read carefully by every hospital obstetrician.

ONSLOW A. GORDON, JR.

**A Method of Anatomy.** Descriptive and Deductive. By J. C. Boileau Grant, M.B. F.R.C.S. Quarto of 850 pages, illustrated. Baltimore: William Wood & Company, 1937. Cloth \$6.00.

In view of the fact that so much has been said in praise of this book, it is possible that an initial and cursory examination may for some be a little disappointing. However, further examination of the text, and a little study of the illustrations will soon change any disappointment to an enthusiastic appreciation of what the book contains.

The descriptions are unique and wonderfully concise. They cover matter that is not readily found elsewhere. The manner of emphasizing the logical arrangement and the positions of various structures, in describing relations, makes the study of anatomy less of a memorizing task and more of a reasoning process.

The illustrations serve their purpose almost perfectly. They are noteworthy

in that all material extraneous to the parts under consideration is omitted and hence does not tend to confuse the picture. They are extremely helpful in visualizing relations that are not nearly so well expressed by much more elaborate illustrations contained in the commonly used textbooks in anatomy.

For reviewing the anatomy of some particular part of the body, whether for teaching or for clinical application, reference to this book will be well repaid.

WALTER H SCHMITT

**Muir's Bacteriological Atlas** Atlas Enlarged and Text Rewritten by C E van Rooyen, M D. Octavo of 90 pages, illustrated. Baltimore, William Wood & Company, 1937. Cloth, \$5.25.

This is an expanded edition of the teaching atlas originally derived from the didactic plates of the late Dr. Richard Muir. His drawings have been mostly retained, but ten years of advancement since their first publication has made necessary additional material and illustrations in addition to a thorough revision of text. Criticisms of artificiality and exaggerations of detail are minimized by the splendid reproductions. Illustrations of bacteriologic findings in various virus infections are of particular interest. The purpose of portraying to the beginner what may be seen when properly focused on specific material is well met and not hampered by the simple descriptive text. The student and instructor will be well repaid by the union of this volume with his selected textbook.

IRVING M. DERBY

**Pre-Natal and Post-Natal Management.** By J. St. George Wilson, M.B., F.R.C.S. Octavo of 206 pages, illustrated. Baltimore, William Wood & Company, 1937. Cloth, \$4.00.

The medical supervision of expectant mothers should be preventative in outlook and educative in scope. The author

of this small volume has admirably shown how both these desirable objects may be attained.

Prenatal care *per se* will never materially lower maternal morbidity and mortality, but it will reduce to a considerable extent, or even perhaps eliminate, the complications of pregnancy, and help to ameliorate the symptoms of those lesions already existing when the pregnancy began. Indeed, it will tell when to terminate the pregnancy where alarming symptoms are impending or actually present.

We may well ask, what is adequate prenatal care without good intrapartum management? Very little. The admonitions given by Dr. Wilson for the management of the intrapartum period are sound and practical, and if heeded by every practitioner would greatly reduce the existing rather high maternal morbidity and mortality rates.

Your reviewer must take issue with the author (Chapter XI) in regards to the induction of abortion and labor. The use of Lamanaria tents, "stomach tubes" or bougies, withdrawal of the liquor amni, etc., are of questionable value. This is true because we believe that the likelihood of infection from such methods, not to mention the pain and discomfort to the patient, far outweighs the ease, on the part of the physician, with which these procedures are carried out. Other methods, particularly surgical, are far more satisfactory. If the practitioner is not capable of performing these surgical procedures he should put his patient in contact with some one, not necessarily a specialist, who is capable.

All in all, this volume is informative, authentic, well written, and up to date, and can without hesitation, be recommended to the profession.

HARVEY B. MATTHEWS

#### ORDERING BOOKS

As a service to our readers, books listed in this issue or any other medical book in print may be ordered through T. H. McKenna, Inc., 878 Lexington Avenue, New York City. Phone B.U.T.T.E.R.F.I.E.L.D. 8-6603.

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

FEBRUARY 1 1939

NUMBER 8

---

## *Editorial*

---

### A Deliberate Foul

It is interesting to observe the unanimity of editorial opinion throughout the country on the indictment of the A M A for "restraint of trade". Even papers favorable to socialized medicine admit that the government's action is a subterfuge to create propaganda for the National Health Program soon to be submitted to Congress and to force the profession into submission. With few exceptions the press condemns this flagrant misuse of the Anti-Trust Laws.

The impending trial raises many interesting points, not least among them whether the practice of medicine is to be removed from the ranks of the learned professions and classed henceforth as a trade. If the latter, it will furnish an argument for trade union methods by the profession to obtain better working conditions and a greater measure of economic security.

A closed shop is one of the first demands of organized labor. Under the Roosevelt Administration the government has thrown its influence behind this principle. Presumably if the doctors had a union the closed shop would be all right for them too. At present, however, it is "restraint of trade" when the profession prescribes ethical and scientific standards for medical practice.

Maybe the profession would be better off if it were officially designated as a trade and received the right to bargain collectively and perhaps engage in a sit-down strike or two to obtain shorter hours and better pay. It is true the public might suffer if physicians insisted on a forty-hour week, with time-and-a-half for overtime, but the Administration would be bound to sympathize with the latter's aims and methods once they were officially classed as

“labor ” What is unlawful “restraint of trade” in a professional association is approved policy for trade unions

Under the circumstances, the government may find itself with a Pyrrhic victory on its hands if it wins its case against the A M A. Fortunately, victory is far from assured

When we say “fortunately,” we are thinking of the public no less than the profession. Even if Mr. Arnold obtained only a consent decree covering the situation in Washington, it would give the Department of Justice Gestapo-like powers over medical practice which it is in no way qualified to exercise

The Administration’s underhanded attack upon the organized profession is hardly less of a disservice to the public than to physicians. In the last analysis, the success of any health program depends upon the willing co-operation of the profession and the unshaken confidence of the people in its doctors. How can the Administration expect either when it has gone out of its way to misrepresent the views and impugn the good faith of the profession?

Win or lose, the government will find that it has paid a high price for the fun of throwing mud at the country’s physicians because of their refusal to assume the role of yes-men in violation of their professional convictions

### Familiar Complaints

The results of the Regents’ Inquiry Into the Character and Cost of Public Education throw cold water upon the hopes of those who believe that state control of medicine would improve the public health. According to a recently published report, the health program in many of the school systems in New York State is decidedly inferior, with waste and incompetence actually endangering the welfare of millions of pupils

Dr. C. E. A. Winslow, Professor of Public Health at Yale, and a noted advocate of state medicine, conducted the Regents’ Inquiry into the School Health Program. He surely cannot be accused of prejudice against public medicine. Yet he reports substantially the same failures as organized medicine attributes to state-controlled practice

Physical examinations in many schools (as in many panel practices) are practically worthless because of the pressure of time. In some schools the unfortunate doctor is obliged to examine fifty children in an hour—and this is not a maximum figure. It goes without saying that early or hidden defects cannot be unearthed

Dr. Winslow finds a serious danger to the mental health of school children in the retention of teachers who are unsuited for their work

Neurotic, maladjusted teachers produce neurotic, maladjusted pupils, but it is almost impossible to oust teachers for this reason

It cannot be said that the authorities have had no knowledge of these evils. Organized medicine has repeatedly called attention to the futility of hasty mass examinations of school children by physicians with no knowledge of the past or familial medical history of their patients. The Chief Medical Examiner of the Board of Education in New York City has crusaded for years against the retention of neurotic teachers in classroom positions.

The fact is that the public purse is not unlimited, any more than the private purse is. In a family the parents' only concern is to get the best possible medical service out of available funds. Under governmental systems, the administrative bureaucracy must be provided for first, and what remains for actual medical care is often very meager. Add political interference to bureaucratic costs, and you have a fair explanation of why most state systems of individual health service fail to come up to popular expectations.

As the Winslow report states: "In many localities the school health service is operated in spite of open opposition on the part of the doctors. If this opposition has been considered at all it has been only to have it dismissed as being due to jealousy, lack of vision, and lack of co-operation on the part of the doctors engaged in private practice. *Little thought has been given to the contention that the medical profession, in its routine practice, could, if unhampered by unfair tactics, definitely improve the health not only of the school children but of the whole community.*"

### On the Witness Stand

Let the doctor say whether he wants to be healer or "heeler." Let the patient answer whether he wants to be considered a sick and suffering individual or "a statistical item." Shall our citizen remain the potent factor in our electorate, or will he become instead a cog in the mechanism of a medico-political bureaucracy which will control him, and the state too, eventually? Shall thrift, initiative, and self-reliance give way to tax burdens which neutralize thrift, prevent savings, and destroy initiative, and our profession, by and large, become a job hunting and job holding fraternity? Shall the stress in the education of our youth entering into the study of medicine be changed from the search for the secrets of Nature to alleviate suffering, to that of training to become a properly subservient official to the bosses in the scheme, and the sick, a suspect always under the scrutiny of medical officers on the watch for malingering, or fearing that in some medical official the



healer had not quite been killed, and the patient was therefore getting better service than the scheme allowed!

Working from source material comprising many books, hundreds of pamphlets and the reports of foundations and committees, in addition to making summations from questionnaires sent to governors, state health departments, local health officers, college professors, hospital executives, and private physicians, J Weston Walch presents the interested public with a new edition of his little pamphlet, *On the Witness Stand*

It is interesting to note, in passing, that the stand on the question of compulsory health insurance which Mr Walch takes was no pre-conceived one. Engaged as he was in furnishing to young debaters and their teacher-coaches material from which they could assemble their arguments both pro and con, and realizing that they want to consider the facts dispassionately and are not swayed by emotion, he soon found, in spite of his evident desire to be neutral, that the very assembling of the facts inevitably pointed to two outstanding features, namely that the people of America were healthier than the people of countries with compulsory health insurance, and that there was very distinct evidence plainly indicating that the system of compulsory health insurance does not render efficient and satisfactory medical service.

We agree with Mr Walch that the American people are facing a very important decision, and that compulsory health insurance with its inferior medical service and its inevitable burden of bureaucracy would do irreparable damage to America, and we know that he is right when he says, " I also feel that if the American people learn the facts, unprejudiced, there will be no question as to their reactions "

In the interest of supplying the public with the facts in a short, easily read little pamphlet, our Society has the newly revised edition of *On the Witness Stand* available. Every one of us should read it carefully, and pass it on to our nonmedical friends, for if Eliot's five-foot shelf carried the essence of a college education, this little pamphlet carries not only the mastery of this topic of the hour, but it poses certain questions which must be answered. This little pamphlet gives some of the answers.

### Forensic Neuropsychiatry

In no branch of forensic medicine is expert testimony open to so much question as in the field of neuropsychiatry. Not only in the evaluation of responsibility for antisocial acts, but in the deter-

mination of casual relationship between trauma and nervous disorders as it affects the just decisions of claims at law, forensic neuropsychiatry is at a distinct disadvantage. So evident is this fact that, as Keschner points out in his article on page 218 of this issue, many physicians with high professional standards voluntarily exclude themselves from the field of compensation practice.

Keschner points out that the profession is to a degree at fault, but that the larger fault lies in what law expects from the expert. This Keschner discusses thoroughly and indicates clearly the remedies for the correction of these errors. Were these carried out fully, forensic neuropsychiatry would then be established as having a definite function in the administration of the law, instead of the haphazard one it now has. This article merits careful study by both the legal and the medical professions.

### Medicolegal Problems of Carbon Monoxide

Poisoning by carbon monoxide has assumed added significance from a medicolegal aspect as clinical observation and experimental studies have contributed to a broader understanding of the action of this gas on the human mechanism. According to Beck,\* there are three phases which carbon monoxide poisoning can assume. Acute asphyxiation is the result of an attempt at suicide or it is accidental, and so presents no difficult medicolegal problem. Where, however, following acute asphyxiation, recovery ensues, there may develop within a week after the incident severe cardiac or cerebral symptoms due to the anoxemia. The signs of myocardial insufficiency or coronary occlusion may become manifest or the picture may be that of an encephalitis. In this group there often arise claims for disability, and unless a careful history is taken and a knowledge possessed of the pathology of anoxemia, carbon monoxide may not be considered as the etiologic factor and thus a just claim be denied at law.

It is in the third group, comprising the chronic poisoning, that the greatest medicolegal controversy exists. It is not yet generally accepted by the medical profession that disability, and even death, may be the result of slow, persistent poisoning from the inhalation of carbon monoxide. Such sequelae are apt to occur in persons who work or live in places where there are open gas heaters but no flue for ventilation. They may also happen from the exposure to sublethal quantities of the gas while driving in a closed automobile which

---

\* Beck, H. G.: *Am J Med. Jurisprud.*, 1 145 (Nov) 1928

has a defective engine or exhaust While the most common symptoms here are those usually associated with the mere want of oxygen, it is possible for one so exposed to suffer the same ill effects as those noted subsequent to recovery from acute asphyxiation

Beck feels that the recognition of these factors is essential in order that the benefits from workmen's compensation and other disability insurance may be broadened to include these little recognized complications which may be either late manifestations of acute poisoning or the result of prolonged exposure to small quantities of carbon monoxide From the medicolegal standpoint, experts at law cannot be expected to establish new standards for compensable disease until such standards have been generally accepted as facts by the experts in medicine upon whom they depend for the solution of such problems

### The Distribution of Physicians in the State of New York

Elsewhere in this issue is a fine, carefully made study of the distribution of physicians in our state Dr Joseph Lawrence, our energetic executive officer, has compiled the results of his continuing studies of this problem since his last report made in 1929 This type of survey has had publication each decennium since 1878

It would detract somewhat from the interest our readers would have in the perusal of Lawrence's masterly work, did we attempt to summarize it It deals with nurses, hospitals, and maternity homes, as well as laboratory facilities, communications, and sanitary conditions as well as with the distribution of doctors and the ratios they hold to both urban and rural populations

The density of the population somehow seems to regulate the numbers of resident physicians, and it is interesting to note the lag which is evident in the trek of physicians away from localities where population decreases The doctor is prone to delay uprooting himself and moving on, as the density of population decreases Eventually, however, he follows the population's trend

One outstanding factual observation and conclusion is especially noteworthy, and social workers and legislators would do well to study this survey and mark this fact *There is no area in this state without medical care*

We heartily commend this survey and recommend its perusal by all It comes advantageously timed, when there are those who would saddle our state with a heavy burden to support a medico-political bureaucracy to handle a compulsory health insurance scheme, somewhat predicated on the absence of available medical care in our state

## Current Comment

" The more we cultivate truth our selves, mix with truthful men, test the accuracy of our words before we speak them and of our writings before we let them go abroad, develop in our consciousness by the study of writings that time has shown to be redolent of truth, not alone those of surgical masters but of all great men, an orientation that will lead us to truth as the pigeon is led to his own cote, the more certain will be our instinct, the more direct our intuition. Blessed are the truthful, for they shall see truth. We have quoted from "Truth," a dissertation by W. H. Ogilvie of Guy's Hospital, London, which can be read in its excellent entirety in the November, 1938, issue of *Surgery, Gynecology, and Obstetrics*.

' It is our business ' said the Attorney General, 'to see that restraints of trade and coercive practices are stopped.' Certainly a sentiment laudable in motive, don't you agree? Whether applied to a professional association or a labor union?

"At the moment, Sir, we do roast upon the spit before the hot fire of political righteousness. But when our alleged 'coercive practices' shall have been thus purified, what then? Who next shall be skewered? You, Sir, are as good a prophet as I, who am no Daniel! And so a friendly word of warning, with the compliments of the holiday season. Watch your step! It is barely possible that the Attorney General means what he says.' From a letter written by Laurence D. Redway, M.D., editor of the *Westchester Medical Bulletin*, to Mr. John L. Lewis, and to be found in full in the January, 1939, issue of that bulletin.

" If, perhaps, the monetary rewards for services have not been as great as in more prosperous years, physicians have at least the satisfaction of knowing that

much of their work has made the lot of many beings more livable, and that thought, alone should bring gladness to the heart.

The healing art guild is truly a noble one, and its faithful disciples are fortunate in being able to render that peculiar aid which makes the world, for a host of persons, a far brighter and more attractive place.

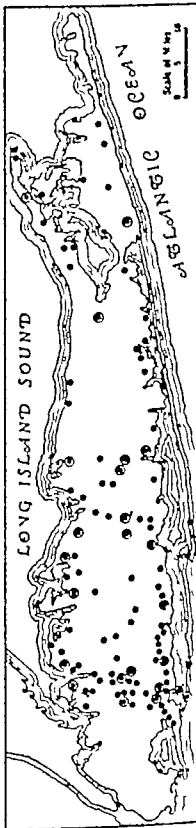
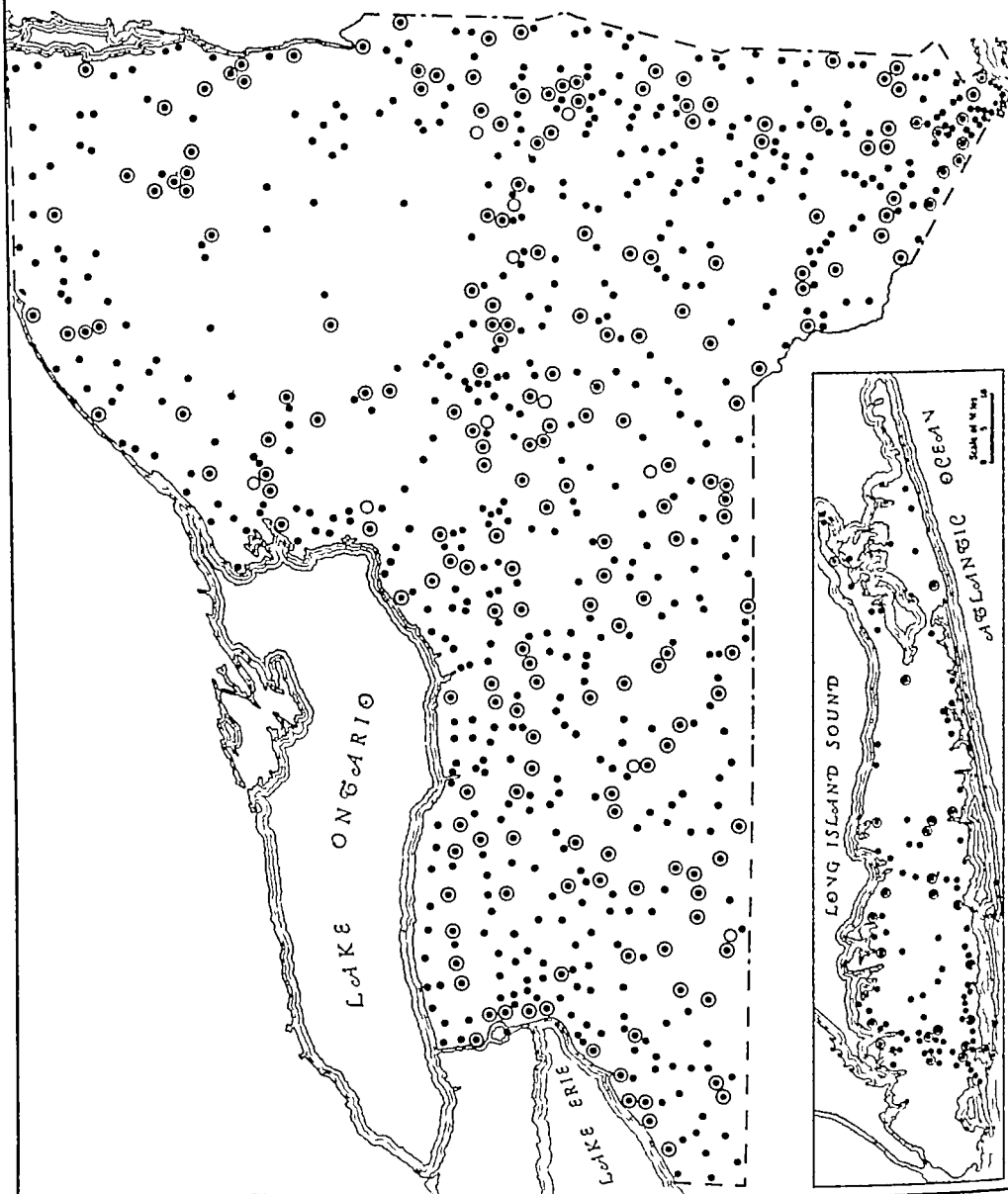
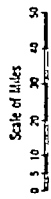
May the physicians of California therefore, in the year to come be recipients of the kindest thoughts and expressions from grateful patients and may they also ever be animated by an earnest desire to move forward, shoulder to shoulder, in meeting the problems which confront both scientific medicine and modern day civilization. New year's greetings from the editors of *California and Western Medicine* to the practitioners of California in the December issue of that journal.

Everybody is in favor of better health conditions, but it is important to keep in mind as discussion of a new national health program continues, that political or bureaucratic control is not essential to those better conditions. *The Kansas City Star* recently

We admire and respect honest unionism for its fight to raise the standards of American workingmen. Since no one can say what the future holds for medicine, it is possible that the time may come when physicians themselves will have to call upon labor to aid them in a battle to raise their own standards of living. We already have the horrible example in some of the European state-controlled systems where neither the patient nor the doctor receives what is justly due him. From a current issue of the *Milwaukee Medical Times*.

# MAP OF NEW YORK STATE SHOWING 1938 DISTRIBUTION OF PHYSICIANS AND HOSPITALS

- Communities having one or more physicians
- Communities having hospital or maternity home



(The five counties of New York City—Bronx, New York, Kings, Queens and Richmond—are not included)

# A STUDY OF THE DISTRIBUTION OF PHYSICIANS IN NEW YORK STATE

JOSEPH S. LAWRENCE, M.D., Albany, N. Y.

THIS report is made as the continuation of a study\* reported ten years ago by the author on the distribution of physicians in New York State compared at ten year intervals from 1878. The former study was inspired by a multiplicity of comments from the press, public speakers on public health, and representatives of certain philanthropic agencies to the effect that the rural districts were inadequately supplied with medical service and that which was available was of markedly inferior quality. The data for that study were collected from the Medical Directory of New York, the Medical Directory of the American Medical Association, and records from the State Departments of Health, Education, and Highways, and the Federal Census Bureau. The same sources, supplemented by material from the State Department of Social Welfare, were used in this study. The former study showed that the ratio of physicians to population in New York State was higher than in other states and much higher than in European countries, that the average rural resident physician was but slightly older than the urban resident physician, and that where the physicians were leaving rural practice for urban residence they were simply following the trend of the population of those countries. It was observed that the decreases in the population were noticeable a decade or more before there was an appreciable reduction in the number of physicians. The reduction was so gradual that it was apparent it was not occasioned by any great number of physicians suddenly changing their fields of practice, but more likely due to the death of the older men and the disinclination of young men to locate where the popula-

tion was fading. This study confirms those findings and shows that the same factors are still operating.

Scientific advancement in medicine is promoting specialization and specialists must depend upon concentrated population for sufficient practice, and such specialized hospital and laboratory facilities which they require can be had only in the larger cities. This is a newer factor that helps give a higher concentration of physicians in the urban districts, but it is the general practitioner who is first called by the sick, and while there are no data available to prove the point, it is conceivable that the ratio of population to general practitioners may not be any lower in the cities than in the rural areas.

In the entire state the population has increased 167 per cent in the last sixty years, while the number of physicians has increased 477 per cent. In upstate areas the increases have been 86 per cent and 256 per cent, respectively. The ratio of physician to population in the entire state is 1:576 while in upstate alone it is 1:720. In Greater New York the ratio is 1:497 and in Manhattan and Brooklyn, where there is the greater concentration of specialists, the ratio is 1:387. The increase in the population of these two boroughs in the last sixty years is 146 per cent, while the physicians increased 581 per cent. While the physicians increased much more rapidly than the population, the increase in some rural counties was much greater, for example, Orange County, where the population increased but 50 per cent, the physicians increased more than five times that much, 288 per cent, Rockland, population increased 124 per cent and physicians 093 per cent, Warren, population increased 40 per cent and physicians 319 per cent.

\* New York State Journal of Medicine, August 15, 1929.

Among the factors, aside from the population, which have a bearing on the quantity and quality of medical service in the rural districts of the state, are living conditions for the doctor and his family, and means of transportation and communication.

One of the greatest deterrents to a young physician locating in a rural area a few years back was the inability to provide satisfactory educational facilities for his children, but the rapid extension of the Central High School in rural districts and free transportation for the children have removed that difficulty. He can readily equalize the other living conditions.

### Communications

In 1878, the principal highways were turnpikes on which tolls were collected and efforts were made to keep them open in winter, but by far the largest proportion of the roads over which the doctor had to travel day and night, summer and winter, were soft dirt roads that were almost impassable in winter and spring. Today 62 per cent have a hard-top finish and are kept usable in all seasons. Even the byways into the farms are far superior to what they were sixty years ago. It can safely be said that because of the improved highways 95 per cent of the population of rural New York live within fifteen minutes' travel of a resident physician.

In these sixty years, in addition to the automobiles and good roads, the telephone has materially reduced the distance between the patient and the doctor. A large percentage of the population have telephones, and although every family does not possess a telephone, a neighbor is sure to have one.

### Sanitary Conditions

In these sixty years miraculous hygienic changes have occurred in the living conditions of the state and some of the benefits have extended to the most remote farm or camp. Water and milk supplies are kept pure and epidemiologists from the Department of Health ferret out the

source of every communicable disease immediately that it is discovered and establish suitable conditions of quarantine. In 1878 there were annually in every district of the state quantities of cases of typhoid fever, diphtheria, dysentery, smallpox, and tuberculosis, while in 1937—the latest figures available—the reports showed that in the entire state for that year there were only 576 cases of typhoid fever, 1,387 of diphtheria, 1,066 of dysentery, 72 of smallpox, and 16,051 of all forms of tuberculosis. These are all troublesome diseases requiring much time from the attending physician. The extent of their presence or absence must surely affect the demand for the physician's services.

### Irregular Practitioners

Of course, these records relate only to the licensed physicians, since there is no way of accurately ascertaining the number of irregular or unlicensed practitioners. Probably they were more numerous then than today, but it does not seem likely, for they find conditions improve for their practice as the population grows in density.

### Age of Physicians

Commentators today are less frequently heard to speak disparagingly of the age and scientific qualifications of the rural physician, but some of them still advocate that the state should be responsible for bringing more physicians into the rural districts. In this state the means of communication are so superior that the city physician does not hesitate to cultivate a more or less rural practice and the rural resident physician frequently extends his practice into the city. Laboratory and hospital facilities are readily available to the rural resident physician, and journals and county medical society postgraduate courses help him keep abreast of the times as well as the urban resident physician.

The conditions and opportunities of the rural and urban physicians being so nearly equal, one might expect the periods of practice to bear a close resemblance,

and they do. Approximately 25 per cent of the physicians in both areas have been in practice less than ten years and another 20 per cent to 25 per cent have been in practice less than twenty years. The assumption that the recent graduate shuns rural practice is only partly correct. Many seek rural locations but, not being successful, are eventually obliged to locate in the cities. But there is another factor operating. Not a few physicians, seeing their most prosperous families forsake the farms for the cities, have followed them advantageously.

### Distribution of Hospitals and Maternity Homes

Modern practice requires readily available hospital and laboratory service. There is only one county in the state, namely, Hamilton, which does not have a hospital, but it is largely included in the Adirondack Park and has a resident population of less than five thousand people. It is estimated that 85 per cent to 90 per cent of the population of the state are within an hour's drive of a well-equipped hospital. The hospitals are supplemented by many maternity homes. There are distributed throughout the state, at strategic places, maternity homes where physicians can take a woman whose home facilities are not satisfactory or who does not want to go to a hospital to be delivered. Many of these homes are provided by graduate nurses who equip their homes with a bed or two and proper sterilizing facilities and serve as the nurse.

Besides the laboratory facilities provided by the hospitals, the Division of Laboratories of the State Department of Health has approved more than thirty-five laboratories where examinations for communicable diseases are made and pathologic tissue studied. The facilities of these laboratories are available to all doctors and examinations are free. Through the laboratories the Department of Health also distributes free of charge to the physicians certain therapeutic agents such as vaccines, antitoxins for diphtheria and tetanus serums for pneu-

monia, and drugs used in the treatment of syphilis and prevention of ophthalmia neonatorum.

### Nurses

There are between 1,700 and 1,800 nurses in upstate engaged in some form of public health work. Approximately one third of these are employed by boards of education to care for the pupils and to assist in giving courses in health education. Only about one fifth are employed by boards of health. The full benefits of adequate public nursing services and the part nurses can take in the development of a public health program are not thoroughly understood as yet. The State Department of Health is giving especial attention to this problem. The work now is spotty, some counties are doing splendid work while others, for reasons of their own, principally financial, are showing very little interest.

In this study the number of nurses employed by the state and municipalities are particularly indicated. The others are employed by such agencies as the Red Cross, industries, insurance companies, and voluntary groups interested in some form of health work, as committees on tuberculosis, maternity, and cancer.

### Deductions

1. Resident physicians and hospitals are distributed throughout the state in such fashion that no area is without medical service. Schuyler County has the lowest ratio of physician to population, 1 1,298, and the highest is in Dutchess County, 1 478. In the relation of general hospital beds to the population, the lowest is found in Livingston County, 1 1,644, and the highest ratio exists in Ontario County, 1 84. In evaluating these figures, it must be borne in mind that no county is an isolated unit, so that the services of physicians and hospitals of neighboring counties are always available.

2. Improved conditions for transportation and communications in the rural districts have increased the useful



ness of the physician many times over what it was just ten years ago

3 The same conditions have led the rural resident to seek the services of the city physician except for emergencies In some instances this trend has induced rural physicians to move to the cities, at the same time retaining their rural practices

4 None the less improved living conditions are attracting young men to locate in the rural areas

5 There is no marked difference in the ages of the men practicing in the rural districts as compared with those in the urban districts

6 Decreases in population must be marked and prolonged before there is any effect upon the number of physicians Areas of growing population have larger proportions of young physicians

7 Nursing service as a part of a public-health program demands prompt study

Ratio of Population to Physician\*

Entire State

| YEAR      | POPULATION | PERCENTAGE | PHYSICIANS | PERCENTAGE | RATIO |
|-----------|------------|------------|------------|------------|-------|
| 1878      | 5,082,982  |            | 4,089      |            | 1,243 |
| 1888      | 5,996,754  | + 18       | 5,541      | + 35       | 1,082 |
| 1899      | 7,268,894  | + 21       | 9,199      | + 66       | 790   |
| 1908      | 9,113,614  | + 25       | 12,711     | + 38       | 717   |
| 1918      | 10,385,227 | + 14       | 14,323     | + 13       | 725   |
| 1928      | 11,466,169 | + 9        | 17,652     | + 23       | 649   |
| 1938      | 13,572,225 | + 18       | 23,578     | + 33       | 576   |
| 1878-1938 |            | +167       |            | +477       |       |

Upstate

|           |           |     |       |      |       |
|-----------|-----------|-----|-------|------|-------|
| 1878      | 3,276,856 |     | 2,387 |      | 1,373 |
| 1888      | 3,642,906 | +11 | 2,843 | + 19 | 1,281 |
| 1899      | 3,851,205 | + 5 | 4,729 | + 63 | 814   |
| 1908      | 4,346,731 | +13 | 6,069 | + 28 | 715   |
| 1918      | 4,765,179 | + 9 | 6,402 | + 5  | 744   |
| 1928      | 5,405,387 | +11 | 6,778 | + 5  | 812   |
| 1938      | 6,080,444 | +16 | 8,498 | + 25 | 720   |
| 1878-1938 |           | +86 |       | +256 |       |

New York and Kings Counties

|           |           |      |        |      |       |
|-----------|-----------|------|--------|------|-------|
| 1878      | 1,806,126 |      | 1,702  |      | 1,061 |
| 1888      | 2,353,848 | + 30 | 2,698  | + 58 | 872   |
| 1899      | 3,417,689 | + 45 | 4,470  | + 65 | 765   |
| 1938      | 4,482,369 |      | 11,584 |      | 387   |
| 1878-1938 |           | +146 |        | +581 |       |

Greater New York

|           |           |     |        |      |     |
|-----------|-----------|-----|--------|------|-----|
| 1908      | 4,706,883 |     | 6 642  |      | 718 |
| 1918      | 5,620,048 | +17 | 7,921  | + 19 | 709 |
| 1928      | 5,970 782 | + 6 | 10 874 | + 37 | 549 |
| 1938      | 7,491,781 | +25 | 15,080 | + 39 | 497 |
| 1908-1938 |           | +57 |        | +127 |     |

\* Data from Vital Statistics Division of State Department of Health as of July 1, 1938

## Ratio of Population to Beds in General Hospitals

| COUNTY      | PERSONS PER BED | COUNTY     | PERSONS PER BED | COUNTY       | PERSONS PER BED |
|-------------|-----------------|------------|-----------------|--------------|-----------------|
| Albany      | 244             | Hamilton   | 0               | Rockland     | 466             |
| Allegany    | 514             | Herkimer   | 688             | St. Lawrence | 386             |
| Broome      | 163             | Jefferson  | 322             | Saratoga     | 611             |
| Cattaraugus | 363             | Lewis      | 589             | Schenectady  | 525             |
| Cayuga      | 290             | Livingston | 1 044           | Schoharie    | 0               |
| Chautauque  | 537             | Madison    | 333             | Schuyler     | 464             |
| Chemung     | 707             | Monroe     | 231             | Seneca       | 535             |
| Chenango    | 418             | Montgomery | 349             | Steuben      | 285             |
| Clinton     | 251             | Nassau     | 005             | Suffolk      | 329             |
| Columbia    | 410             | Niagara    | 400             | Sullivan     | 425             |
| Cortland    | 210             | Oneida     | 192             | Tioga        | 464             |
| Delaware    | 957             | Orangetown | 288             | Tompkins     | 350             |
| Dutchess    | 280             | Ontario    | 84              | Ulster       | 403             |
| Erie        | 284             | Orange     | 239             | Warren       | 441             |
| Essex       | 334             | Orleans    | 298             | Washington   | 406             |
| Franklin    | 334             | Oswego     | 558             | Wayne        | 633             |
| Fulton      | 404             | Putnam     | 325             | Westchester  | 242             |
| Genesee     | 366             | Rensselaer | 600             | Wyoming      | 256             |
| Greene      | 619             |            | 233             | Yates        | 373             |

ENTIRE STATE: 316 general hospitals with 82,245 beds ratio—1 bed to 259 population

NEW YORK CITY: 125 general hospitals with 32 722 beds ratio—1 bed to 229 population.

UPSTATE: 191 general hospitals with 19 523 beds ratio—1 bed to 311 population.

These ratios are prepared on the hospitals listed in *The Journal of the American Medical Association* for March 26 1938. There are a number of hospitals doing general work acceptable to the communities that are not in this list.

## Distribution by Counties\*

## Albany County

AREA—827 Square Miles

HIGHWAYS—1 178 Miles Improved—1 104 Miles

POPULATION—223 038 Increased 44 per cent in last sixty years

PHYSICIANS—361 Increased 69 per cent in last sixty years

Ratio of physician to population in county—1 618

Ratio of physician to population in city —1:468

Ratio of physician to population rural —1 179

Physicians reside in 19 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS |              | PERCENTAGE   |              |
|------------------------|---------------------|--------------|--------------|--------------|
|                        | Albany Rural        | Albany Rural | Albany Rural | Albany Rural |
| 1-10                   | 05                  | 19           | 24           | 25           |
| 11-20                  | 85                  | 17           | 30           | 22           |
| 21-30                  | 70                  | 9            | 24           | 12           |
| 31-40                  | 34                  | 11           | 12           | 15           |
| 41--                   | 28                  | 20           | 10           | 26           |
| Total                  | 285                 | 76           | 100          | 100          |

## HOSPITALS

4 General with 913 beds and 60 bassinets

6 other hospitals and homes with 435 beds and 60 bassinets

## NURSES

65 nurses are engaged in public work

3 are paid from state funds

22 are paid by boards of education

14 are paid by boards of health

26 are paid by private agencies

## Allegany County

AREA—1,047 Square Miles

HIGHWAYS—1 975 Miles Improved—1,045 Miles

POPULATION—38 531 Decreased 8 per cent in last sixty years

PHYSICIANS—36 Decreased 10 per cent in last sixty years

Ratio physician to population—1:1,070

Physicians reside in 16 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 9                   | 25         |
| 11-20                  | 10                  | 28         |
| 21-30                  | 7                   | 19         |
| 31-40                  | 3                   | 9          |
| 41--                   | ~                   | 19         |
| Total                  | 36                  | 100        |

## HOSPITALS

3 General with 75 beds and 20 bassinets

4 Nursing and maternity homes with 6 beds

## NURSES

9 nurses are engaged in public work

3 are paid from state funds

6 are paid by boards of education

\* Data on distribution of nurses from the Department of Health as of October 1 1938.

Broome County

AREA-705 Square Miles  
HIGHWAYS-1,562 Miles Improved-711 Miles  
POPULATION-158,610 Increased 221 per cent in last sixty years  
PHYSICIANS-239 Increased 327 per cent in last sixty years  
Ratio physician to population in county -1 663  
Ratio physician to population in Binghamton-1 465  
Ratio physician to population, rural -1 1,133  
Physicians reside in 12 different communities

| YEARS SINCE GRADUATION | No OF      |    | PERCENTAGE   |              |
|------------------------|------------|----|--------------|--------------|
|                        | PHYSICIANS |    | Bing-        | Bing-        |
|                        |            |    | hamton Rural | hamton Rural |
| 1-10                   | 47         | 25 | 28           | 35           |
| 11-20                  | 47         | 21 | 28           | 30           |
| 21-30                  | 27         | 10 | 10           | 14           |
| 31-40                  | 19         | 11 | 11           | 15           |
| 41-                    | 28         | 4  | 17           | 0            |
| Total                  | 108        | 71 | 100          | 100          |

HOSPITALS

4 General with 975 beds and 124 bassinets  
5 others with 188 beds and 14 bassinets  
1 State Hospital for Insane with 2 730 beds

NURSES

67 nurses are engaged in public work  
17 are paid by boards of education  
8 are paid by boards of health  
28 are paid by industries  
14 are paid by private agencies

Cattaraugus County

AREA-1,343 Square Miles  
HIGHWAYS-2 120 Miles Improved-638 Miles  
POPULATION-73,015 Increased 31 percent in last sixty years  
PHYSICIANS-79 Increased 155 per cent in last sixty years  
Ratio physician to population-1 924  
Physicians reside in 15 different communities

| YEARS SINCE GRADUATION | No OF      |  | PERCENTAGE |  |
|------------------------|------------|--|------------|--|
|                        | PHYSICIANS |  |            |  |
| 1-10                   | 19         |  | 24         |  |
| 11-20                  | 22         |  | 28         |  |
| 21-30                  | 14         |  | 18         |  |
| 31-40                  | 11         |  | 14         |  |
| 41-                    | 13         |  | 16         |  |
| Total                  | 79         |  | 100        |  |

HOSPITALS

5 General with 201 beds and 60 bassinets  
4 others with 13 beds and 6 bassinets  
2 Tuberculosis with 522 beds

NURSES

22 nurses are engaged in public work  
17 are paid by boards of health  
3 are paid by boards of education  
2 are paid by private agencies

Cayuga County

AREA-703 Square Miles  
HIGHWAYS-1,520 Miles, Improved-1,131 Miles  
POPULATION-63 110 Decreased 3 per cent in last sixty years  
PHYSICIANS-115 Increased 174 per cent in last sixty years  
Ratio physician to population-1 549  
Physicians reside in 13 different communities

| YEARS SINCE GRADUATION | No OF      |  | PERCENTAGE |  |
|------------------------|------------|--|------------|--|
|                        | PHYSICIANS |  |            |  |
| 1-10                   | 17         |  | 15         |  |
| 11-20                  | 25         |  | 22         |  |
| 21-30                  | 22         |  | 19         |  |
| 31-40                  | 25         |  | 22         |  |
| 41-                    | 20         |  | 22         |  |
| Total                  | 115        |  | 100        |  |

HOSPITALS

2 General with 213 beds and 30 bassinets  
2 Maternity homes with 4 beds

NURSES

19 nurses are engaged in public work  
2 are paid from state funds  
3 are paid by boards of health  
7 are paid by boards of education  
7 are paid by private agencies

Chautauqua County

AREA-1,009 Square Miles  
HIGHWAYS-1,988 Miles Improved-1,371 Miles  
POPULATION-132,618 Increased 103 per cent in last sixty years  
PHYSICIANS-130 Increased 210 per cent in last sixty years  
Ratio physician to population-1 1,020  
Physicians reside in 25 different communities

| YEARS SINCE GRADUATION | No OF      |  | PERCENTAGE |  |
|------------------------|------------|--|------------|--|
|                        | PHYSICIANS |  |            |  |
| 1-10                   | 25         |  | 19         |  |
| 11-20                  | 24         |  | 19         |  |
| 21-30                  | 27         |  | 21         |  |
| 31-40                  | 28         |  | 21         |  |
| 41-                    | 20         |  | 20         |  |
| Total                  | 130        |  | 100        |  |

HOSPITALS

3 General with 247 beds and 54 bassinets  
1 County Tuberculosis with 180 beds  
4 Maternity homes with 9 beds

NURSES

25 nurses are engaged in public work  
4 are paid from state funds  
0 are paid by boards of health  
8 are paid by boards of education  
7 are paid by private agencies

**Chemung County**

AREA-407 Square Miles

HIGHWAYS-912 Miles Improved-322 Miles

POPULATION-76,973 Increased 78 per cent in last sixty years

PHYSICIANS-96 Increased 174 per cent in last sixty years

Ratio physician to population-1:802

Physicians reside in 7 different communities

| YEARS SINCE GRADUATION | NO OF PHYSICIANS | PERCENTAGE |
|------------------------|------------------|------------|
| 1-10                   | 24               | 25         |
| 11-20                  | 20               | 20         |
| 21-30                  | 16               | 17         |
| 31-40                  | 18               | 19         |
| 41-                    | 18               | 19         |
| Total                  | 96               | 100        |

**HOSPITALS**

2 General with 372 beds and 57 bassinets

4 others with 140 beds

Elmira Reformatory with 100 beds

**NURSES**

22 nurses are engaged in public work

2 are paid from state funds

3 are paid by boards of health

6 are paid by boards of education

11 are paid by private agencies

**Clinton County**

AREA-1,049 Square Miles

HIGHWAYS-1,457 Miles Improved-851 Miles

POPULATION-45,537 Decreased 15 per cent in last sixty years

PHYSICIANS-62 Increased 174 per cent in last sixty years

Ratio physician to population-1:876

Physicians reside in 10 different communities

| YEARS SINCE GRADUATION | NO OF PHYSICIANS | PERCENTAGE |
|------------------------|------------------|------------|
| 1-10                   | 14               | 27         |
| 11-20                  | 10               | 19         |
| 21-30                  | 9                | 18         |
| 31-40                  | 10               | 19         |
| 41-                    | 9                | 17         |
| Total                  | 52               | 100        |

**HOSPITALS**

2 General with 181 beds and 33 bassinets

1 Army with 64 beds and 2 bassinets

1 State Prison hospital with 235 beds

**NURSES**

9 nurses are engaged in public work

4 are paid from state funds

4 are paid from city or village funds

1 is paid by insurance company

**Chenango County**

AREA-894 Square Miles

HIGHWAYS-1,790 Miles Improved-762 Miles

POPULATION-34,540 Decreased 13 per cent in last sixty years

PHYSICIANS-34 Decreased 39 per cent in last sixty years

Ratio physician to population-1:1,016

Physicians reside in 9 different communities

| YEARS SINCE GRADUATION | NO OF PHYSICIANS | PERCENTAGE |
|------------------------|------------------|------------|
| 1-10                   | 8                | 23         |
| 11-20                  | 5                | 15         |
| 21-30                  | 6                | 18         |
| 31-40                  | 10               | 29         |
| 41-                    | 5                | 15         |
| Total                  | 34               | 100        |

**HOSPITALS**

2 General with 77 beds and 10 bassinets

1 County Tuberculosis with 33 beds

4 Maternity homes with 11 beds

**NURSES**

7 nurses are engaged in public work

2 are paid from state funds

3 are paid by boards of education

**Columbia County**

AREA-844 Square Miles

HIGHWAYS-1,390 Miles Improved-973 Miles

POPULATION-42,247 Decreased 12 per cent in last sixty years

PHYSICIANS-42 Increased 56 per cent in last sixty years

Ratio physician to population-1:1,006

Physicians reside in 14 different communities

| YEARS SINCE GRADUATION | NO OF PHYSICIANS | PERCENTAGE |
|------------------------|------------------|------------|
| 1-10                   | 12               | 29         |
| 11-20                  | 5                | 12         |
| 21-30                  | 10               | 23         |
| 31-40                  | 5                | 12         |
| 41-                    | 10               | 24         |
| Total                  | 42               | 100        |

**HOSPITALS**

1 General with 103 beds and 15 bassinets

2 Tuberculosis with 131 beds

1 Maternity Home with 4 beds

**NURSES**

13 nurses are engaged in public work

7 are paid by boards of health

4 are paid by boards of education

2 are paid by private agencies

## Cortland County

AREA-503 Square Miles

HIGHWAYS-1,055 Miles, Improved-454 Miles

POPULATION-32,817 Increased 27 per cent in last sixty years

PHYSICIANS-41 Increased 37 per cent in last sixty years

Ratio physician to population-1 800

Physicians reside in 8 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 7                   | 17         |
| 11-20                  | 13                  | 32         |
| 21-30                  | 5                   | 12         |
| 31-40                  | 7                   | 17         |
| 41-                    | 9                   | 22         |
| Total                  | 41                  | 100        |

## HOSPITALS

2 General with 132 beds and 25 bassinets

## NURSES

10 nurses are engaged in public work

5 are paid by boards of health

4 are paid by boards of education

1 is paid by private agency

## Delaware County

AREA-1,449 Square Miles

HIGHWAYS-2,470 Miles, Improved-873 Miles

POPULATION-41,163 Decreased 4 per cent in last sixty years

PHYSICIANS-47 Increased 28 per cent in last sixty years

Ratio physician to population-1 876

Physicians reside in 19 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 17                  | 36         |
| 11-20                  | 5                   | 10         |
| 21-30                  | 6                   | 13         |
| 31-40                  | 3                   | 6          |
| 41-                    | 16                  | 35         |
| Total                  | 47                  | 100        |

## HOSPITALS

3 General with 43 beds and 11 bassinets

1 County Tuberculosis with 32 beds

7 Maternity Homes with 24 beds and 3 bassinets

## NURSES

11 nurses are engaged in public work

3 are paid from state funds

2 are paid by boards of health

5 are paid by boards of education

1 is paid by private agency

## Dutchess County

AREA-806 Square Miles

HIGHWAYS-1,657 Miles, Improved-707 Miles

POPULATION-102,932 Increased 30 per cent in last sixty years

PHYSICIANS-215 Increased 176 per cent in last sixty years

Ratio physician to population-1 478

Physicians reside in 24 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENT |
|------------------------|---------------------|---------|
| 1-10                   | 68                  | 32      |
| 11-20                  | 49                  | 22      |
| 21-30                  | 27                  | 12      |
| 31-40                  | 45                  | 22      |
| 41-                    | 26                  | 12      |
| Total                  | 215                 | 100     |

## HOSPITALS

4 General with 357 beds and 76 bassinets

1 County Tuberculosis with 135 beds

5 Psychopathic with 14,108 beds

7 others with 719 beds

## NURSES

30 nurses are engaged in public work

5 are paid from state funds

8 are paid by boards of health

11 are paid by boards of education

6 are paid by private agencies

## Erie County

AREA-1,034 Square Miles

HIGHWAYS-2,449 Miles, Improved-2,214 Miles

POPULATION-813,786 Increased 270 per cent in last sixty years

POPULATION OF BUFFALO-599,273 Increased 292 per cent in last sixty years

POPULATION OUTSIDE OF BUFFALO-214,513 Increased 2 per cent in last sixty years

PHYSICIANS IN COUNTY-1,178 Increased 833 per cent in last sixty years

PHYSICIANS IN BUFFALO-996 Increased 896 per cent in last sixty years

PHYSICIANS OUTSIDE OF BUFFALO-182 Increased 600 per cent in last sixty years

Ratio physician to population in County -1 692

Ratio physician to population in Buffalo -1 602

Ratio physician to population outside Buffalo-1 1,19

Physicians reside in 39 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE    |
|------------------------|---------------------|---------------|
|                        | Buffalo Rural       | Buffalo Rural |
| 1-10                   | 247                 | 44            |
| 11-20                  | 260                 | 48            |
| 21-30                  | 207                 | 35            |
| 31-40                  | 154                 | 26            |
| 41-                    | 128                 | 29            |
| Total                  | 996                 | 182           |

## HOSPITALS

13 General with 2,866 beds and 333 bassinets

1 State Hospital for Insane with 2,049 beds

8 others with 532 beds and 86 bassinets

## NURSES

200 nurses are engaged in public work

5 are paid from state funds

37 are paid by boards of health

22 are paid by boards of education

56 are visiting nurses

40 are industrial nurses

40 are paid by private agencies

## Essex County

AREA-1,836 Square Miles  
 HIGHWAYS-1 433 Miles Improved-1 432 Miles  
 POPULATION-35 102 Increased 2 per cent in last sixty years  
 PHYSICIANS-54 Increased 80 per cent in last sixty years

Ratio physician to population-1 650

Physicians reside in 21 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 12                   | 22         |
| 11-20                  | 13                   | 24         |
| 21-30                  | 8                    | 15         |
| 31-40                  | 13                   | 24         |
| 41-                    | 8                    | 15         |
| Total                  | 54                   | 100        |

## HOSPITALS

3 General with 103 beds and 19 bassinets

3 Tuberculosis with 325 beds

5 Maternity Homes with 13 beds

## NURSES

12 nurses are engaged in public work

3 are paid from state funds

6 are paid by boards of education

3 are paid by private agencies

## Fulton County

AREA-516 Square Miles  
 HIGHWAYS-793 Miles Improved-214 Miles  
 POPULATION-47,320 Increased 62 per cent in last sixty years  
 PHYSICIANS-64 Increased 170 per cent in last sixty years

Ratio physician to population-1 740

Physicians reside in 6 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 20                   | 31         |
| 11-20                  | 9                    | 14         |
| 21-30                  | 17                   | 26         |
| 31-40                  | 12                   | 19         |
| 41-                    | 6                    | 10         |
| Total                  | 64                   | 100        |

## HOSPITALS

1 General with 102 beds and 18 bassinets

2 Maternity Homes with 6 beds

## NURSES

14 nurses are engaged in public work

3 are paid from state funds

5 are paid by boards of education

1 is paid by board of health

5 are paid by private agencies

## Franklin County

AREA-1 678 Square Miles  
 HIGHWAYS-1,383 Miles Improved-844 Miles  
 POPULATION-46 741 Increased 44 per cent in last sixty years  
 PHYSICIANS-78 Increased 290 per cent in last sixty years

Ratio physician to population-1 600

Physicians reside in 16 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 15                   | 19         |
| 11-20                  | 18                   | 23         |
| 21-30                  | 12                   | 16         |
| 31-40                  | 18                   | 23         |
| 41-                    | 15                   | 19         |
| Total                  | 78                   | 100        |

## HOSPITALS

3 General with 140 beds and 24 bassinets

13 Tuberculosis with 1 182 beds

## NURSES

9 nurses are engaged in public work

3 are paid from state funds

3 are paid by boards of education

1 is paid by board of health

2 are paid by private agencies

## Genesee County

AREA-496 Square Miles  
 HIGHWAYS-921 Miles Improved-903 Miles  
 POPULATION-47,249 Increased 45 per cent in last sixty years  
 PHYSICIANS-46 Increased 53 per cent in last sixty years

Ratio physician to population-1 1 027

Physicians reside in 9 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 7                    | 15         |
| 11-20                  | 15                   | 33         |
| 21-30                  | 7                    | 15         |
| 31-40                  | 9                    | 19         |
| 41-                    | 8                    | 18         |
| Total                  | 46                   | 100        |

## HOSPITALS

2 General with 129 beds and 25 bassinets

1 Maternity Home with 2 beds

1 Veterans with 297 beds

## NURSES

8 nurses are engaged in public work

2 are paid by boards of health

2 are paid by boards of education

4 are paid by private agencies

## Greene County

AREA-643 Square Miles

HIGHWAYS-1,101 Miles, Improved-445 Miles

POPULATION-25,960 Decreased 21 percent in last sixty years

PHYSICIANS-36 Same number as sixty years ago

Ratio physician to population-1 720

Physicians reside in 17 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 9                   | 25         |
| 11-20                  | 4                   | 11         |
| 21-30                  | 7                   | 20         |
| 31-40                  | 4                   | 11         |
| 41-                    | 12                  | 33         |
| Total                  | 36                  | 100        |

## HOSPITALS

1 General with 50 beds and 12 bassinets

1 Maternity Home with 2 beds

## NURSES

6 are engaged in public work

3 are paid from state funds

2 are paid by boards of education

1 is paid by private agency

## Hamilton County

AREA-1,700 Square Miles

HIGHWAYS-443 Miles, Improved-197 Miles

POPULATION-3,929

PHYSICIANS-6

Ratio of physician to population-1 655

Physicians reside in 5 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 3                   | 50         |
| 11-20                  | 0                   | 0          |
| 21-30                  | 1                   | 16         |
| 31-40                  | 1                   | 17         |
| 41-                    | 1                   | 17         |
| Total                  | 6                   | 100        |

## HOSPITALS

None

## NURSES

None

## Herkimer County

AREA-1,459 Square Miles

HIGHWAYS-1,532 Miles, Improved-887 Miles

POPULATION-64,624 Increased 51 percent in last sixty years

PHYSICIANS-62 Increased 63 per cent in last sixty years

Ratio physician to population-1 1,042

Physicians reside in 14 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 14                  | 23         |
| 11-20                  | 12                  | 19         |
| 21-30                  | 15                  | 24         |
| 31-40                  | 8                   | 13         |
| 41-                    | 13                  | 21         |
| Total                  | 62                  | 100        |

## HOSPITALS

3 General with 94 beds and 25 bassinets

1 County Tuberculosis with 90 beds

2 Maternity Homes with 4 beds

## NURSES

18 nurses are engaged in public work

1 is paid from state funds

6 are paid by boards of health

7 are paid by boards of education

4 are paid by private agencies

## Jefferson County

AREA-1,274 Square Miles

HIGHWAYS-2,259 Miles, Improved-1,715 Miles

POPULATION-84,141 Increased 27 percent in last sixty years

PHYSICIANS-99 Increased 50 per cent in last sixty years

Ratio physician to population-1 850

Physicians reside in 26 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 19                  | 20         |
| 11-20                  | 22                  | 22         |
| 21-30                  | 16                  | 16         |
| 31-40                  | 18                  | 18         |
| 41-                    | 24                  | 24         |
| Total                  | 99                  | 100        |

## HOSPITALS

4 General with 263 beds and 38 bassinets

1 County Tuberculosis with 78 beds

1 County Home with 30 beds

2 Convalescent Homes with 20 beds and 12 bassinets

4 Maternity Homes with 10 beds

1 Army Station with 30 beds

## NURSES

15 nurses are engaged in public work

3 are paid by boards of health

6 are paid by boards of education

6 are paid by private agencies

## Lewis County

AREA-1,270 Square Miles

HIGHWAYS-1 467 Miles Improved-710 Miles

POPULATION-23,574 Decreased 27 per cent in last sixty years

PHYSICIANS-19 One more than sixty years ago

Ratio physician to population-1:1,241

Physicians reside in 9 different communities

| YEARS SINCE GRADUATION | No. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 5                    | 26         |
| 11-20                  | 8                    | 42         |
| 21-30                  | 3                    | 16         |
| 31-40                  | 1                    | 5          |
| 41-                    | 2                    | 11         |
| Total                  | 19                   | 100        |

## HOSPITALS

1 General with 40 beds and 9 bassinets

1 Maternity Home with 3 beds

## NURSES

3 nurses are engaged in public work

1 is paid from state funds

2 are paid by boards of education

## Livingston County

AREA-631 Square Miles

HIGHWAYS-1,270 Miles Improved-1 044 Miles

POPULATION-36 168 Decreased 9 per cent in last sixty years

PHYSICIANS-57 Increased 63 per cent in last sixty years

Ratio physician to population-1 635

Physicians reside in 12 different communities

| YEARS SINCE GRADUATION | No. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 18                   | 32         |
| 11-20                  | 16                   | 28         |
| 21-30                  | 6                    | 11         |
| 31-40                  | 5                    | 9          |
| 41-                    | 12                   | 20         |
| Total                  | 57                   | 100        |

## HOSPITALS

1 General with 22 beds and 4 bassinets

1 Tuberculosis (State) with 250 beds

1 Maternity with 5 beds

1 Psychopathic with 2 186 beds

## NURSES

10 nurses are engaged in public work

3 are paid from state funds

3 are paid by boards of health

3 are paid by boards of education

1 is paid by private agency

## Madison County

AREA-630 Square Miles

HIGHWAYS-1 464 Miles Improved-650 Miles

POPULATION-39 900 Decreased 10 per cent in last sixty years

PHYSICIANS-53 Increased 51 per cent in last sixty years

Ratio physician to population-1 753

Physicians reside in 12 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 15                  | 28         |
| 11-20                  | 6                   | 11         |
| 21-30                  | 7                   | 13         |
| 31-40                  | 9                   | 17         |
| 41-                    | 16                  | 31         |
| Total                  | 53                  | 100        |

## HOSPITALS

3 General with 120 beds and 27 bassinets

7 Maternity Homes with 18 beds

## NURSES

10 nurses are engaged in public work

3 are paid from state funds

5 are paid by boards of education

2 are paid by private agencies

## Monroe County

AREA-668 Square Miles

HIGHWAYS-1 476 Miles Improved-1 458 Miles

POPULATION-452 666 Increased 203 per cent in last sixty years

POPULATION OF ROCHESTER-339 563 Increased 280 per cent in last sixty years

POPULATION OUTSIDE OF ROCHESTER-113 103 Increased 104 per cent in last sixty years

PHYSICIANS IN COUNTY-662 Increased 515 per cent in last sixty years

PHYSICIANS IN ROCHESTER-604 Increased 716 per cent in last sixty years

PHYSICIANS OUTSIDE OF ROCHESTER-48 Increased 50 per cent in last sixty years

Ratio physician to population in County -1:694

Ratio physician to population in Rochester -1 862

Ratio physician to population outside Rochester-1:2,355

Physicians reside in 18 different communities

| YEARS SINCE GRADUATION | No. OF<br>PHYSICIANS |       | PERCENTAGE     |       |
|------------------------|----------------------|-------|----------------|-------|
|                        | Roches-<br>ter       | Rural | Roches-<br>ter | Rural |
| 1-10                   | 145                  | 13    | 24             | 27    |
| 11-20                  | 157                  | 12    | 26             | 25    |
| 21-30                  | 126                  | 6     | 21             | 13    |
| 31-40                  | 100                  | 9     | 17             | 19    |
| 41-                    | 73                   | 8     | 12             | 16    |
| Total                  | 604                  | 48    | 100            | 100   |

## HOSPITALS

8 General with 2,049 beds and 262 bassinets

6 Convalescent Homes and Private Hospitals with 160 beds and 17 bassinets

1 Tuberculosis with 400 beds

1 State Hospital for Insane with 3 085 beds

7 Maternity Homes with 29 beds

## NURSES

155 nurses are engaged in public work

50 are paid by boards of health

11 are paid by boards of education

55 are paid by private agencies



Montgomery County

AREA-398 Square Miles  
HIGHWAYS-887 Miles, Improved-741 Miles  
POPULATION-61,006 Increased 59 percent in last sixty years  
PHYSICIANS-59 Increased 136 per cent in last sixty years

Ratio physician to population-1 1,034  
Physicians reside in 9 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 14                  | 24         |
| 11-20                  | 11                  | 19         |
| 21-30                  | 16                  | 27         |
| 31-40                  | 7                   | 12         |
| 41-                    | 11                  | 18         |
| Total                  | 59                  | 100        |

HOSPITALS

2 General with 175 beds and 37 bassinets  
2 Tuberculosis with 80 beds  
2 Maternity Homes with 2 beds

NURSES

32 nurses are engaged in public work  
7 are paid from state funds  
3 are paid by boards of health  
11 are paid by boards of education  
11 are paid by private agencies

Nassau County

AREA-274 Square Miles  
HIGHWAYS-1 949 Miles, Improved-1,898 Miles  
POPULATION-381 051 Increased 587 per cent in last thirty years  
PHYSICIANS-524 Increased 1,441 per cent in last thirty years

Ratio physician to population-1 727  
Physicians reside in 51 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 173                 | 33         |
| 11-20                  | 170                 | 33         |
| 21-30                  | 77                  | 14         |
| 31-40                  | 67                  | 13         |
| 41-                    | 37                  | 7          |
| Total                  | 524                 | 100        |

HOSPITALS

6 General with 665 beds and 104 bassinets  
3 General, not listed, with 53 beds and 27 bassinets  
1 Army Station with 35 beds  
2 Maternity Homes with 7 beds

NURSES

121 nurses are engaged in public work  
20 are paid by County Board of Health  
61 are paid by boards of education  
40 are paid by private agencies

Niagara County

AREA-522 Square Miles  
HIGHWAYS-951 Miles, Improved-869 Miles  
POPULATION-162,446 Increased 200 per cent in last sixty years  
PHYSICIANS-161 Increased 310 per cent in last sixty years

Ratio physician to population-1 1,015  
Physicians reside in 14 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 38                  | 24         |
| 11-20                  | 45                  | 28         |
| 21-30                  | 27                  | 17         |
| 31-40                  | 24                  | 15         |
| 41-                    | 27                  | 16         |
| Total                  | 161                 | 100        |

HOSPITALS

4 General with 406 beds and 72 bassinets  
1 General, not listed, with 32 beds and 6 bassinets  
1 County Tuberculosis with 200 beds  
1 Maternity Home with 3 beds

NURSES

54 nurses are engaged in public work  
1 is paid from state funds  
12 are paid by boards of health  
12 are paid by boards of education  
10 are paid by Red Cross  
17 are paid by industries  
2 are paid by private agencies

Oneida County

AREA-1,250 Square Miles  
HIGHWAYS-2,372 Miles Improved-1,066 Miles  
POPULATION-199,498 Increased 82 per cent in last sixty years  
PHYSICIANS-280 Increased 208 per cent in last sixty years

Ratio physician to population-1 712  
Physicians reside in 29 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 64                  | 23         |
| 11-20                  | 63                  | 23         |
| 21-30                  | 54                  | 19         |
| 31-40                  | 51                  | 18         |
| 41-                    | 48                  | 17         |
| Total                  | 280                 | 100        |

HOSPITALS

9 General with 1,035 beds and 122 bassinets  
4 Psychopathic with 7,628 beds and 24 bassinets  
1 Tuberculosis (County) with 180 beds  
3 Maternity Homes with 7 beds  
1 Orthopedic with 40 beds  
1 Eastern Star Home with 82 beds

NURSES

64 nurses are engaged in public work  
4 are paid from state funds  
10 are paid by boards of health  
21 are paid by boards of education  
29 are paid by private agencies

## Onondaga County

AREA-781 Square Miles

HIGHWAYS-1 706 Miles Improved-1 535 Miles

POPULATION-311,577 Increased 163 per cent in last sixty years

POPULATION OF SYRACUSE-220,811 Increased 326 per cent in last sixty years

POPULATION OUTSIDE OF SYRACUSE-91 066 Increased 38 per cent in last sixty years

PHYSICIANS IN COUNTY-464 Increased 440 per cent in last sixty years

PHYSICIANS IN SYRACUSE-403 Increased 923 per cent in last sixty years

PHYSICIANS OUTSIDE OF SYRACUSE-61 Increased 30 per cent in last sixty years

Ratio of physician to population in County -1:672

Ratio of physician to population in Syracuse -1:648

Ratio of physician to population outside Syracuse-1:1 403

Physicians reside in 25 different communities

| YEARS SINCE GRADUATION | No. of PHYSICIANS |       |          |       | PERCENTAGE |
|------------------------|-------------------|-------|----------|-------|------------|
|                        | Syracuse          | Rural | Syracuse | Rural |            |
| 1-10                   | 65                | 20    | 16       | 33    |            |
| 11-20                  | 110               | 10    | 27       | 16    |            |
| 21-30                  | 102               | 7     | 26       | 11    |            |
| 31-40                  | 65                | 12    | 16       | 20    |            |
| 41-                    | 61                | 12    | 15       | 20    |            |
| Total                  | 403               | 61    | 100      | 100   |            |

## HOSPITALS

8 General with 1 080 beds and 169 bassinets

6 Maternity Hospitals and Homes with 43 beds and 20 bassinets

2 Psychopathic with 48 beds

1 Tuberculosis with 255 beds

1 City Isolation with 84 beds

## NURSES

127 nurses are engaged in public work

5 are paid from state funds

43 are paid by boards of health

28 are paid by boards of education

61 are paid by private agencies

## Ontario County

AREA-649 Square Miles

HIGHWAYS-1,376 Miles Improved-1,225 Miles

POPULATION-54,972 Increased 11 per cent in last sixty years

PHYSICIANS-93 Increased 158 per cent in last sixty years

Ratio physician to population-1:591

Physicians reside in 13 different communities

| YEARS SINCE GRADUATION | No. of PHYSICIANS |  |  |     | PERCENTAGE |
|------------------------|-------------------|--|--|-----|------------|
|                        |                   |  |  |     |            |
| 1-10                   | 24                |  |  | 26  |            |
| 11-20                  | 23                |  |  | 25  |            |
| 21-30                  | 8                 |  |  | 9   |            |
| 31-40                  | 20                |  |  | 21  |            |
| 41-                    | 18                |  |  | 19  |            |
| Total                  | 93                |  |  | 100 |            |

## HOSPITALS

3 General with 714 beds and 47 bassinets

2 Tuberculosis with 87 beds

1 Veterans with 1 115 beds

3 Maternity Homes with 25 beds and 3 bassinets

1 Health Home with 31 beds

1 Psychopathic with 79 beds

## NURSES

17 nurses are engaged in public work

5 are paid from state funds

5 are paid by boards of education

1 is paid by board of health

6 are paid by private agencies

## Orange County

AREA-834 Square Miles

HIGHWAYS-1 754 Miles Improved-1 754 Miles

POPULATION-132,182 Increased 50 per cent in last sixty years

PHYSICIANS-186 Increased 288 per cent in last sixty years

Ratio physician to population-1:710

Physicians reside in 20 different communities

| YEARS SINCE GRADUATION | No. of PHYSICIANS |  | PERCENTAGE |
|------------------------|-------------------|--|------------|
|                        |                   |  |            |
| 1-10                   | 44                |  | 24         |
| 11-20                  | 42                |  | 23         |
| 21-30                  | 39                |  | 21         |
| 31-40                  | 33                |  | 18         |
| 41-                    | 28                |  | 15         |
| Total                  | 186               |  | 100        |

## HOSPITALS

9 General with 551 beds and 93 bassinets

3 Tuberculosis with 448 beds

2 Psychopathic with 3,289 beds

1 Maternity Home with 4 beds

1 Army Station with 158 beds and 8 bassinets

## NURSES

20 nurses are engaged in public work

5 are paid from state funds

13 are paid by boards of health

7 are paid by boards of education

4 are paid by private agencies

## Orleans County

AREA-390 Square Miles

HIGHWAYS-752 Miles Improved-426 Miles

POPULATION-28 905 Decreased 4 per cent in last sixty years

PHYSICIANS-33 Increased 22 per cent in last sixty years

Ratio physician to population-1:876

Physicians reside in 7 different communities

| YEARS SINCE GRADUATION | No. of PHYSICIANS |  | PERCENTAGE |
|------------------------|-------------------|--|------------|
|                        |                   |  |            |
| 1-10                   | 5                 |  | 15         |
| 11-20                  | 4                 |  | 12         |
| 21-30                  | 6                 |  | 18         |
| 31-40                  | 8                 |  | 24         |
| 41-                    | 10                |  | 31         |
| Total                  | 33                |  | 100        |

## HOSPITALS

3 General with 97 beds and 23 bassinets

## NURSES

4 nurses are engaged in public work

2 are paid from state funds

2 are paid by boards of education

**Oswego County**

AREA-966 Square Miles  
HIGHWAYS-1,750 Miles, Improved-1,087 Miles  
POPULATION-89,711 Decreased 12 per cent in last sixty years  
PHYSICIANS-64 Increased 16 per cent in last sixty years

Ratio physician to population-1 1,090  
Physicians reside in 17 different communities

| YEARS SINCE GRADUATION | No of<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 18                  | 30         |
| 11-20                  | 14                  | 22         |
| 21-30                  | 5                   | 8          |
| 31-40                  | 15                  | 22         |
| 41-                    | 12                  | 18         |
|                        | —                   | —          |
| Total                  | 64                  | 100        |

**HOSPITALS**

2 General with 125 beds and 22 bassinets  
1 County Tuberculosis with 111 beds and 4 bassinets  
1 Army Station with 30 beds  
2 Community Maternity with 6 beds

**NURSES**

15 nurses are engaged in public work  
2 are paid from state funds  
3 are paid by boards of health  
4 are paid by boards of education  
6 are paid by private agencies

**Otsego County**

AREA-1,009 Square Miles  
HIGHWAYS-2,218 Miles, Improved-1 065 Miles  
POPULATION-47,198 Decreased 8 per cent in last sixty years  
PHYSICIANS-67 Increased 72 per cent in last sixty years

Ratio physician to population-1 704  
Physicians reside in 16 different communities

| YEARS SINCE GRADUATION | No of<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 12                  | 18         |
| 11-20                  | 15                  | 22         |
| 21-30                  | 12                  | 18         |
| 31-40                  | 10                  | 15         |
| 41-                    | 18                  | 27         |
|                        | —                   | —          |
| Total                  | 67                  | 100        |

**HOSPITALS**

2 General with 145 beds and 17 bassinets  
2 Tuberculosis with 276 beds  
1 Maternity Home with 8 beds

**NURSES**

12 nurses are engaged in public work  
2 are paid from state funds  
9 are paid by boards of education  
1 is paid by private agency

**Putnam County**

AREA-233 Square Miles  
HIGHWAYS-543 Miles, Improved-202 Miles  
POPULATION-15,004 Decreased 1 per cent in last sixty years  
PHYSICIANS-23 Increased 44 per cent in last sixty years

Ratio physician to population-1 652  
Physicians reside in 6 different communities

| YEARS SINCE GRADUATION | No of<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 3                   | 13         |
| 11-20                  | 5                   | 22         |
| 21-30                  | 2                   | 9          |
| 31-40                  | 5                   | 22         |
| 41-                    | 8                   | 34         |
|                        | —                   | —          |
| Total                  | 23                  | 100        |

**HOSPITALS**

1 General with 25 beds and 6 bassinets  
2 Convalescent Homes with 40 beds  
1 Emergency Home with 3 beds

**NURSES**

7 nurses are engaged in public work  
6 are paid by the county  
1 is paid by board of education

**Rensselaer County**

AREA-663 Square Miles  
HIGHWAYS-1,448 Miles, Improved-483 Miles  
POPULATION-122,690 Increased 6 per cent in last sixty years  
PHYSICIANS-145 Increased 174 per cent in last sixty years

Ratio physician to population-1 846  
Physicians reside in 16 different communities

| YEARS SINCE GRADUATION | No of<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 35                  | 24         |
| 11-20                  | 30                  | 21         |
| 21-30                  | 35                  | 24         |
| 31-40                  | 23                  | 16         |
| 41-                    | 22                  | 15         |
|                        | —                   | —          |
| Total                  | 145                 | 100        |

**HOSPITALS**

3 General with 525 beds and 60 bassinets  
1 Maternity with 30 beds and 28 bassinets  
1 County Tuberculosis with 152 beds  
1 Psychopathic with 60 beds  
1 Convalescent with 53 beds  
1 Orphans' with 31 beds  
1 Health Center with 12 beds and 7 bassinets

**NURSES**

29 nurses are engaged in public work  
3 are paid from state funds  
8 are paid by boards of health  
6 are paid by boards of education  
12 are paid by private agencies

**Rockland County**

AREA-183 Square Miles

HIGHWAYS-435 Miles Improved-426 Miles

POPULATION-62 082 Increased 124 per cent in last sixty years

PHYSICIANS-111 Increased 693 per cent in last sixty years

Ratio physician to population-1:568

Physicians reside in 19 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 34                   | 31         |
| 11-20                  | 35                   | 31         |
| 21-30                  | 16                   | 13         |
| 31-40                  | 13                   | 12         |
| 41-                    | 14                   | 13         |
| Total                  | 111                  | 100        |

**HOSPITALS**

2 General with 133 beds and 20 bassinets

1 County Tuberculosis with 74 beds

1 State Psychopathic with 4 700 beds

3 Convalescent with 173 beds and 2 bassinets

1 Orthopedic with 300 beds

2 Maternity Homes with 12 beds

**NURSES**

21 nurses are engaged in public work

2 are paid from state funds

1 is paid by board of health

12 are paid by boards of education

6 are paid by private agencies

**St. Lawrence County**

AREA-2 701 Square Miles

HIGHWAYS-8,261 Miles Improved-2 131 Miles

POPULATION-90 012 Increased 4 per cent in last sixty years

PHYSICIANS-84 Increased 65 per cent in last sixty years

Ratio physician to population-1:1,072

Physicians reside in 27 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 24                   | 29         |
| 11-20                  | 9                    | 12         |
| 21-30                  | 14                   | 16         |
| 31-40                  | 14                   | 16         |
| 41-                    | 23                   | 27         |
| Total                  | 84                   | 100        |

**HOSPITALS**

2 General with 723 beds and 45 bassinets

1 Tuberculosis with 46 beds

1 Psychopathic with 2 141 beds

6 Maternity Homes with 9 beds

**NURSES**

20 nurses are engaged in public work

12 are paid from state funds

3 are paid by boards of health

4 are paid by boards of education

1 is paid by private agency

**Saratoga County**

AREA-623 Square Miles

HIGHWAYS-1,575 Miles Improved-749 Miles

POPULATION-64,830 Increased 18 per cent in last sixty years

PHYSICIANS-86 Increased 126 per cent in last sixty years

Ratio physician to population-1:754

Physicians reside in 17 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 19                   | 22         |
| 11-20                  | 18                   | 21         |
| 21-30                  | 18                   | 21         |
| 31-40                  | 10                   | 12         |
| 41-                    | 21                   | 24         |
| Total                  | 86                   | 100        |

**HOSPITALS**

2 General with 106 beds and 23 bassinets

1 General not listed with 36 beds and 6 bassinets

2 Tuberculosis with 450 beds

3 Convalescent with 61 beds

2 Maternity with 6 beds

**NURSES**

17 nurses are engaged in public work

2 are paid from state funds

1 is paid by board of health

7 are paid by boards of education

7 are paid by private agencies

**Schenectady County**

AREA-206 Square Miles

HIGHWAYS-482 Miles Improved-401 Miles

POPULATION-181 729 Increased 459 per cent in last sixty years

PHYSICIANS-157 Increased 582 per cent in last sixty years

Ratio physician to population-1 639

Physicians reside in 4 different communities

| YEARS SINCE GRADUATION | NO. OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|----------------------|------------|
| 1-10                   | 43                   | 28         |
| 11-20                  | 33                   | 20         |
| 21-30                  | 35                   | 22         |
| 31-40                  | 27                   | 17         |
| 41-                    | 20                   | 13         |
| Total                  | 157                  | 100        |

**HOSPITALS**

1 General with 251 beds and 34 bassinets

3 Maternity with 25 beds and 14 bassinets

1 Tuberculosis with 126 beds

1 Orthopedic with 35 beds

1 County Home with 65 beds

1 Isolation with 35 beds

1 Industrial with 18 beds

**NURSES**

56 nurses are engaged in public work

3 are paid from state funds

12 are paid by boards of health

26 are paid by boards of education

16 are paid by private agencies

## Schoharie County

AREA-642 Square Miles

HIGHWAYS-1,244 Miles, Improved-625 Miles

POPULATION-19,746 Decreased 40 percent in last sixty years

PHYSICIANS-21 Decreased 5 per cent in last sixty years

Ratio physician to population-1 940

Physicians reside in 9 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 2                   | 9          |
| 11-20                  | 4                   | 19         |
| 21-30                  | 3                   | 14         |
| 31-40                  | 6                   | 29         |
| 41-                    | 6                   | 29         |
| Total                  | 21                  | 100        |

## HOSPITALS

1 General, not listed, with 6 beds and 2 bassinets

2 Maternity with 2 beds

## NURSES

7 nurses are engaged in public work

2 are paid from state funds

4 are paid by boards of education

1 is paid by private agency

## Schuyler County

AREA-336 Square Miles

HIGHWAYS-778 Miles Improved-459 Miles

POPULATION-12,982 Decreased 31 percent in last sixty years

PHYSICIANS-10 Decreased 64 per cent in last sixty years

Ratio physician to population-1 1 298

Physicians reside in 5 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 2                   | 20         |
| 11-20                  | 3                   | 30         |
| 21-30                  | 2                   | 20         |
| 31-40                  | 3                   | 30         |
| 41-                    | 0                   | 0          |
| Total                  | 10                  | 100        |

## HOSPITALS

1 General with 28 beds and 8 bassinets

1 Psychopathic with 200 beds

1 Maternity Home with 3 beds

## NURSES

4 nurses are engaged in public work

2 are paid from state funds

1 is paid by board of education

1 is paid by private agency

## Seneca County

AREA-336 Square Miles

HIGHWAYS-745 Miles, Improved-600 Miles

POPULATION-22,660 Decreased 23 percent in last sixty years

PHYSICIANS-34 Increased 17 per cent in last sixty years

Ratio physician to population-1 664

Physicians reside in 7 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 11                  | 32         |
| 11-20                  | 10                  | 29         |
| 21-30                  | 2                   | 6          |
| 31-40                  | 5                   | 15         |
| 41-                    | 6                   | 18         |
| Total                  | 34                  | 100        |

## HOSPITALS

2 General with 43 beds and 12 bassinets

1 Psychopathic with 2,009 beds

## NURSES

5 nurses are engaged in public work

1 is paid from state funds

3 are paid by boards of education

1 is paid by private agency

## Steuben County

AREA-1,398 Square Miles

HIGHWAYS-3,191 Miles, Improved-1 600 Miles

POPULATION-83,007 Increased 7 per cent in last sixty years

PHYSICIANS-89 Increased 68 per cent in last sixty years

Ratio physician to population-1 933

Physicians reside in 20 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 21                  | 24         |
| 11-20                  | 19                  | 21         |
| 21-30                  | 16                  | 18         |
| 31-40                  | 15                  | 17         |
| 41-                    | 18                  | 20         |
| Total                  | 80                  | 100        |

## HOSPITALS

5 General with 291 beds and 62 bassinets

1 Tuberculosis with 59 beds

1 Veterans' with 395 beds

## NURSES

20 nurses are engaged in public work

3 are paid from state funds

5 are paid by boards of health

7 are paid by boards of education

5 are paid by private agencies

**Suffolk County**

AREA-920 Square Miles

HIGHWAYS-2 787 Miles Improved-1 072 Miles

POPULATION-169 067 Increased 213 per cent in last sixty years

PHYSICIANS-307 Increased 703 per cent in last sixty years

Ratio physician to population-1:551

Physicians reside in 57 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 99                  | 32         |
| 11-20                  | 79                  | 26         |
| 21-30                  | 51                  | 17         |
| 31-40                  | 41                  | 13         |
| 41-                    | 37                  | 12         |
| Total                  | 307                 | 100        |

**HOSPITALS**

9 General with 514 beds and 104 bassinets

5 Psychopathic with 20,319 beds

1 Tuberculosis with 162 beds

2 Army Veterans with 1 438 beds

3 Maternity Homes with 16 beds

2 Community Hospitals with 37 beds and 14 bassinets

**NURSES**

47 nurses are engaged in public work

17 are paid by boards of health

21 are paid by boards of education

9 are paid by private agencies

**Sullivan County**

AREA-1 003 Square Miles

HIGHWAYS-1,891 Miles Improved-1 088 Miles

POPULATION-36 176 Increased 11 per cent in last sixty years

PHYSICIANS-59 Increased 211 per cent in last sixty years

Ratio physician to population-1:613

Physicians reside in 25 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 21                  | 36         |
| 11-20                  | 15                  | 25         |
| 21-30                  | 11                  | 19         |
| 31-40                  | 6                   | 10         |
| 41-                    | 6                   | 10         |
| Total                  | 59                  | 100        |

**HOSPITALS**

4 General with 85 beds and 17 bassinets

1 General not listed with 24 beds and 5 bassinets

4 Tuberculosis with 255 beds

2 Maternity with 5 beds

1 Psychopathic with 750 beds

**NURSES**

8 nurses are engaged in public work

4 are paid from state funds

4 are paid by boards of education

**Tioga County**

AREA-520 Square Miles

HIGHWAYS-1 088 Miles Improved-443 Miles

POPULATION-26 023 Decreased 20 per cent in last sixty years

PHYSICIANS-40 Increased 43 per cent in last sixty years

Ratio physician to population-1:650

Physicians reside in 8 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 9                   | 23         |
| 11-20                  | 5                   | 12         |
| 21-30                  | 2                   | 5          |
| 31-40                  | 8                   | 20         |
| 41-                    | 16                  | 40         |
| Total                  | 40                  | 100        |

**HOSPITALS**

1 General with 56 beds and 12 bassinets

1 Psychopathic with 50 beds

1 Maternity Home with 2 beds

**NURSES**

3 nurses are engaged in public work

2 are paid by boards of education

1 is paid by Red Cross

**Tompkins County**

AREA-476 Square Miles

HIGHWAYS-1 108 Miles Improved-710 Miles

POPULATION-44 148 Increased 23 per cent in last sixty years

PHYSICIANS-78 Increased 193 per cent in last sixty years

Ratio physician to population-1:559

Physicians reside in 0 different communities

| YEARS SINCE GRADUATION | NO OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 18                  | 23         |
| 11-20                  | 19                  | 24         |
| 21-30                  | 14                  | 18         |
| 31-40                  | 15                  | 19         |
| 41-                    | 12                  | 16         |
| Total                  | 79                  | 100        |

**HOSPITALS**

3 General with 120 beds and 23 bassinets

2 Tuberculosis with 280 beds

1 Orthopedic with 80 beds

**NURSES**

14 nurses are engaged in public work

4 are paid from state funds

3 are paid by boards of health

4 are paid by boards of education

3 are paid by private agencies

## Ulster County

AREA-1,137 Square Miles

HIGHWAYS-1,854 Miles, Improved-570 Miles

POPULATION-81,405 Decreased 5 per cent in last sixty years

PHYSICIANS-104 Increased 73 per cent in last sixty years

Ratio physician to population-1 782

Physicians reside in 27 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 20                  | 19         |
| 11-20                  | 27                  | 26         |
| 21-30                  | 19                  | 18         |
| 31-40                  | 14                  | 14         |
| 41-                    | 24                  | 23         |
| Total                  | 104                 | 100        |

## HOSPITALS

2 General with 202 beds and 31 bassinets

1 Veterans' with 14 beds and 5 bassinets

1 County Tuberculosis with 58 beds

1 Psychopathic with 100 beds

2 Convalescent with 49 beds

## NURSES

17 nurses are engaged in public work

4 are paid from state funds

4 are paid by boards of health

6 are paid by boards of education

3 are paid by private agencies

## Warren County

AREA-876 Square Miles

HIGHWAYS-1,039 Miles, Improved-292 Miles

POPULATION-35,245 Increased 40 per cent in last sixty years

PHYSICIANS-67 Increased 319 per cent in last sixty years

Ratio physician to population-1 526

Physicians reside in 11 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 15                  | 22         |
| 11-20                  | 10                  | 15         |
| 21-30                  | 13                  | 20         |
| 31-40                  | 14                  | 21         |
| 41-                    | 15                  | 22         |
| Total                  | 67                  | 100        |

## HOSPITALS

1 General with 80 beds and 15 bassinets

1 County Tuberculosis with 52 beds

## NURSES

12 nurses are engaged in public work

3 are paid from state funds

3 are paid by boards of health

3 are paid by boards of education

3 are paid by private agencies

## Washington County

AREA-837 Square Miles

HIGHWAYS-1,589 Miles, Improved-472 Miles

POPULATION-45,862 Decreased 4 per cent in last sixty years

PHYSICIANS-46 Increased 39 per cent in last sixty years

Ratio physician to population-1 997

Physicians reside in 11 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 8                   | 17         |
| 11-20                  | 9                   | 20         |
| 21-30                  | 7                   | 15         |
| 31-40                  | 9                   | 20         |
| 41-                    | 13                  | 28         |
| Total                  | 46                  | 100        |

## HOSPITALS

2 General with 113 beds and 21 bassinets

3 Maternity Homes with 8 beds

## NURSES

10 nurses are engaged in public work

4 are paid from state funds

5 are paid by boards of education

1 is paid by private agency

## Wayne County

AREA-599 Square Miles

HIGHWAYS-1,401 Miles, Improved-1,303 Miles

POPULATION-49,380 Decreased 4 per cent in last sixty years

PHYSICIANS-65 Increased 71 per cent in last sixty years

Ratio physician to population-1 759

Physicians reside in 15 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 17                  | 26         |
| 11-20                  | 13                  | 20         |
| 21-30                  | 6                   | 9          |
| 31-40                  | 12                  | 19         |
| 41-                    | 17                  | 26         |
| Total                  | 65                  | 100        |

## HOSPITALS

3 General with 78 beds and 16 bassinets

1 General, not listed, with 27 beds and 4 bassinets

1 Psychopathic with 2,156 beds

## NURSES

9 nurses are engaged in public work

2 are paid from state funds

1 is paid by board of health

5 are paid by boards of education

1 is paid by private agency

**Westchester County**

AREA-448 Square Miles

HIGHWAYS-1,096 Miles Improved-744 Miles

POPULATION-583 744 Increased 445 per cent in last sixty years

PHYSICIANS-698 Increased 1 412 per cent in last sixty years

Ratio physician to population-1:835

Physicians reside in 49 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 254                 | 26         |
| 11-20                  | 320                 | 32         |
| 21-30                  | 185                 | 18         |
| 31-40                  | 127                 | 13         |
| 41-                    | 112                 | 11         |
| Total                  | 698                 | 100        |

**HOSPITALS**

- 16 General with 2 449 beds and 332 bassinets
- 3 Tuberculosis with 388 beds
- 9 Nervous and Mental with 758 beds
- 4 Convalescent with 323 beds
- 2 Cardiac with 133 beds
- 1 Orthopedic with 73 beds
- 1 Communicable Disease with 87 beds

**NURSES**

- 181 nurses are engaged in public work
- 89 are paid by boards of health
- 61 are paid by boards of education
- 61 are paid by private agencies

**Wyoming County**

AREA-601 Square Miles

HIGHWAYS-1 094 Miles Improved-594 Miles

POPULATION-28 754 Decreased 7 per cent in last sixty years

PHYSICIANS-40 Increased 43 per cent in last sixty years

Ratio physician to population-1 710

Physicians reside in 13 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 8                   | 20         |
| 11-20                  | 8                   | 20         |
| 21-30                  | 4                   | 10         |
| 31-40                  | 6                   | 15         |
| 41-                    | 14                  | 35         |
| Total                  | 40                  | 100        |

**HOSPITALS**

- 1 General with 112 beds and 23 bassinets
- 1 Convalescent Home with 40 beds
- 1 Nursing Home with 2 beds

**NURSES**

- 5 nurses are engaged in public work
- 2 are paid from state funds
- 3 are paid by boards of health

**Yates County**

AREA-343 Square Miles

HIGHWAYS-814 Miles Improved-640 Miles

POPULATION-17 196 Decreased 18 per cent in last sixty years

PHYSICIANS-26 Increased 53 per cent in last sixty years

Ratio physician to population-1:659

Physicians reside in 5 different communities

| YEARS SINCE GRADUATION | No OF<br>PHYSICIANS | PERCENTAGE |
|------------------------|---------------------|------------|
| 1-10                   | 3                   | 12         |
| 11-20                  | 3                   | 12         |
| 21-30                  | 5                   | 19         |
| 31-40                  | 9                   | 34         |
| 41-                    | 6                   | 23         |
| Total                  | 26                  | 100        |

**HOSPITALS**

- 1 General with 46 beds and 10 bassinets

**NURSES**

- 4 nurses are engaged in public work
- 2 are paid from state funds
- 2 are paid by boards of health



# FORENSIC NEUROPSYCHIATRY

MOSES KESCHNER, M D , New York City

**I**N VIEW of the frequency with which neuropsychiatric problems are important issues in criminal, testamentary, negligence, and workmen's compensation cases, it is difficult to explain the lack of interest in this subject on the part of most neuropsychiatrists in this country. The possible reasons for this attitude may be (1) the erroneous belief held by some that the practice of forensic neuropsychiatry demands contacts with lawyers and politicians—contacts generally regarded unpleasant and distasteful to scientifically minded individuals, (2) the general lack of interest in forensic medicine—especially in forensic neuropsychiatry—by medical educators in this country.

Most medical schools fail to provide well organized instruction in these subjects. In a recently established course in forensic medicine in one of the metropolitan medical schools the only reference in the curriculum to forensic neuropsychiatry reads as follows: "Some facts relating to the medicolegal aspects of mental disease are discussed and instruction is given in the examination and commitment of the mentally sick." Since the World War the general public has become more or less mental-hygiene conscious with the result that several of our educational institutions became interested in criminology, and some excellent courses are now offered in this subject, most of these, however, are devoted more to the sociologic than to the biologic aspects of the problem.

Forensic psychiatry in its relation to criminology pivots around the question of mental responsibility of an individual charged with the commission of an anti-social act. Psychiatrists encounter great difficulty in attempting to reconcile the psychiatric with the legal point of view as to mental responsibility. It is high time that the meaningless terms of legal insanity and medical insanity be discarded. That this view is also held by some en-

lightened judges is well exemplified by the following statement by Judge Doe in a recent case: "That cannot be a fact in law which is not a fact in science, that cannot be health in law which is disease in fact. And it is unfortunate that courts should maintain a contest with science and the laws of nature upon a question of fact which is within the province of science and outside the domain of law." The determination of mental responsibility should not be a matter of law. Mental responsibility is a matter of fact to be determined by those trained in obtaining and interpreting the facts regarding human behavior.

The legal standard of knowledge of right and wrong as a yardstick for measuring mental responsibility does not conform to the facts as psychiatrists see them. The law is interested in the criminal act, whereas psychiatry is chiefly concerned with the individual who commits it and with the determination of the presence or absence of organic brain disease or of a personality defect that may account for the commission of the crime and the unconscious motivation of the act.

The law still adheres tenaciously to concepts of mental responsibility, guilt, and punishment formulated centuries ago. Most of these formulations are based on old concepts of lack of cognition, irresistible impulse, delusion, and monomania. Sheldon Glueck justly criticizes these concepts as tests of mental responsibility in "that their employment as such neglects the fundamental notion of the unity of mind and interrelationship of mental processes and the fact that a disturbance in the cognitive, volitional, or emotional sphere, as the case may be, can hardly occur without its affecting the personality as a whole and the conduct flowing from that personality."

It is to the credit of psychiatrists that they are taking the initiative in the read-

justment of society's attitude toward the crime problem but, as with all reorientations in subjects which concern both the individual and society, there are many obstacles to overcome. One of these is that society has not as yet learned how to relate crime to biology and to social and psychologic factors. Another obstacle is the law's cautiousness in accepting modern psychiatric formulations owing to the uncertainty of the psychiatrist's knowledge in this field. It is this uncertainty of knowledge, which must be admitted to exist, that causes many misinformed persons to criticize adversely the integrity of psychiatric experts who do not agree. These critics forget that honest differences of opinion are encountered daily in various walks of life and that the judges of the United States Supreme Court are not always unanimous in their opinions. Many of the disagreements by medical witnesses are more apparent than real, they are in most cases due to the absurd method of legal procedure during which evidence is attempted to be obtained by insisting that the witness "answer the question yes or no," without giving him an opportunity to explain his views and reasons for the answer.

Another legal absurdity which casts discredit on the medical witness and especially the psychiatrist, exposing him not infrequently to ridicule, is the hypothetical question. In most instances the amount of valuable information obtained from answering a hypothetical question may be said to be in an inverse proportion to its length. The hypothetical question has been properly characterized as a vehicle affording opportunities for lawyers and experts to engage in matching wits and in a metaphysical discussion of nonsensical and obscure questions. The most serious objection to the hypothetical question is that it may include the assumption of only such facts as have been proved or are expected to be proved as favorable only to the case of the proponent of the question. Moreover, the expert himself may not believe in the truth of the facts assumed. Chief Justice Emery of the Supreme Court of

Maine, in commenting on expert evidence as a necessary evil "not much praised or welcomed," speaks of the hypothetical question as follows: "Often the data given are conflicting and even impossible, presenting cases never met with in medical experience. In fine, the hypothetical question rarely presents a case as it is and answers confined to it are, therefore, misleading. So convinced am I of the justice of this complaint that I have never required an answer to a hypothetical question but have left it to the medical witness to answer or not as he pleased."

It has been suggested that the hypothetical question should be abolished altogether, or if it must remain, that it contain only such facts as have been elicited in the evidence and that the expert be permitted reasonable latitude in rejecting inconsistencies and in evaluating evidence which is confirmed by other evidence and, furthermore, that the question be prepared in chambers or in court by the judge and opposing counsel to the exclusion of the jury and all witnesses in the case.

Forensic psychiatry is not infrequently discredited on account of the carelessness with which some psychiatrists approach the problem and on account of the ignorance and dishonesty of others. The latter has recently been caustically commented upon by John Clarke Knox as follows: "But the practice of medicine like the practice of law and other professions is sometimes accursed by men of base natures and of the character of charlatans. These sometimes subject the art to the suspicion that it is but little more than a mercenary trade. The quack and the fraud is to be found both within and without the court room. On the highways and byways of life he preys upon the ignorant and the unwise. With in the halls of justice he perjures himself upon the altar of truth and reflects discredit upon the guild in which he claims membership. At times he raises doubts in the minds of intelligent men as to whether medicine in general, and psychiatry in particular, have any real claim to a scientific basis. Day after day we find

physicians arrayed on opposite sides of a law suit, each will be given the same set of facts, and asked to draw a reasonable conclusion from the evidence before him. Very often the opinions expressed by the opposing physicians are as far apart as the poles, and in all too many instances the opinions are determined not by the facts but by the necessities of the litigant retaining the physicians who gave them utterance. A doctor, it is true, is under great obligation to his patient, and a lawyer, undoubtedly, owes an understanding duty to his client, but the obligation of one, and the duty of the other is no justification for the prostitution of the law and the rightful expectations of organized society."

Unfortunately this severe arraignment of medical experts is, in no few instances, well deserved. It is not an uncommon experience to see in court that medical—and especially psychiatric—experts forget that they are witnesses who, after obtaining the facts, are expected to deduce from them as a result of special knowledge and experience, certain definite conclusions regardless of the effect that these may have on the legal issues of the case. Whenever an expert ceases to adhere rigidly to this principle he assumes the double rôle of physician and lawyer. In commenting on this attitude of some experts Roscoe Pound has said "It has become their job to work out and expound ingenious theories to make every one understand that for other purposes and for other occasions the man was undoubtedly sane."

These defects in the method of legal procedure are gradually being eliminated by the psychiatrists themselves. One significant step in this direction has been the creation of Boards of Certification in Psychiatry and Neurology whose duty it is to certify as to the satisfactory moral and ethical standing and to the competency of experts. Although these Boards have been functioning only for a relatively short time the justification for their existence is becoming more manifest every day by the unusually high type of expert who is beginning to appear in the courts.

The so-called "battle of experts" is gradually being eliminated by the adoption in many jurisdictions of a new procedure in the method of determining the mental condition of an individual accused of having committed a crime. The general basis for this new method is a statutory provision for the examination of the offender by a board or commission of impartial experts appointed by the court in each case or by a standing committee in a state hospital for mental disease. Such boards or commissions are empowered to investigate thoroughly the details of the crime alleged, the offender's family and developmental history, his physical condition including laboratory findings, environment, intelligence, emotional reactions, and degree of responsibility to be attributed to him. The report and conclusions are then submitted to the court but they are also accessible to the prosecuting officer, the defendant's attorney, and the probation officer. Massachusetts was the first state in the Union to enact such a law, the so-called Brigg's Law. This statute is admitted by most psychiatrists and by many legal authorities to be the most progressive piece of legislation yet enacted to secure impartial and unbiased opinions as to the mental condition of those accused of crime. It is hoped that, when similar methods of determining the mental condition of those accused of crime will have been adopted by the various states, the function of the jury will be limited to the determination as to whether the criminal act was committed, as charged, by the accused and that his responsibility, total or partial, which in the ultimate analysis is a question of psychiatric diagnosis, will be determined by nonpartisan physicians intensively trained in neuropsychiatry.

As ideal and consistent as this method of procedure is with modern psychiatric thought, yet there is a legal obstacle which may sometimes defeat both the intent and purpose of such a method. This obstacle is the constitutional right of the accused to have his defense of insanity tried by a jury of his peers. The average jury is usually unable to dis-

tinguish between competent and incompetent experts, and the common law allows experts to be called on behalf of the interested parties so that it may sometimes be impossible to present to the jury clear, unbiased, and impartial evidence. Still, it may not be too optimistic to hope, even without depriving the accused of his constitutional and common law rights, that lawyers, judges, and the public at large may learn to realize that true justice will be best subserved by the universal adoption of some such method of impartial determination of an offender's mental condition as is at present in operation in Massachusetts and in a few other states.

It must, however, be borne in mind that while this reorientation as to procedure is progressing, psychiatrists must not assume an attitude of self sufficiency as to their knowledge of this branch of psychiatry. There are in this field many problems for the solution of which the law looks to psychiatry. Thus a fruitful field for study would be the various types of so-called psychopathy. From 35 to 40 per cent of the inmates of prisons and reformatories are classified as psychopaths, yet we have very little definite knowledge about delinquent psychopaths. Studies like those of dementia praecox should be undertaken from every possible angle. The data obtained from such investigations could then be correlated and so integrated that they would be helpful in our orientation as to the causes of crime and recidivism with a view of a possible modification of the personality of these individuals.

These and similar problems merit the attention of psychiatry, which should be an auxiliary to the legal machinery concerned with the detection of criminals, probation, parole, and penology in general.

The neuropsychiatrist also plays an important role in the administration of the law of accidental injuries.

Injuries to the nervous system resulting from the increasing use of mechanical devices in industry and everyday life are undoubtedly on the increase. This increase is reflected by a corresponding increase in the number of litigated cases

under the Workmen's Compensation Laws and in suits for personal injuries in negligence cases. In the adjudication of these cases, juries, judges, and referees look to the neuropsychiatrist for a determination of the causal relationship between the accident and the injury as well as for an estimation of the degree of disability and of the amount of compensation or money damages, as the case may be.

In view of the law's demand that these determinations be based on reasonable probabilities and not on possibilities, the neuropsychiatrist is not infrequently confronted with difficult problems.

Cases in which an accident has produced structural changes in the injured parts present, as a rule, the least difficulties. The presence of objective evidence of disease in these cases makes a reasonable estimation of causal relationship and degree of disability a relatively simple matter. The problem, however, becomes much more intricate in cases in which, though there is no doubt that the patient had sustained a severe injury, there are no objective evidences of the presence of a pathologic process as far as can be determined by our present methods of investigation. Thus is especially the case in patients who have sustained a head injury with or without fracture of the skull, and with or without a history of disturbance of consciousness. In these patients the symptomatology may be entirely subjective and the clinical picture so strikingly uniform that it is regarded as a clinical entity to which the designation of "postconcussion syndrome" has been attached. In spite of the unusually large number of these cases and of the extensive experiences gained during the World War, as well as from experimental investigations in animals, our knowledge concerning this group of cases is still nebulous. The reaction of these patients to trauma, the element of claims for compensation or money damages in negligence cases are all additional factors in obscuring many of the medical issues involved. Without prolonged observation it may at times be impossible to determine with any degree of reasonable probability whether

one is dealing with structural changes, functional disturbances, psychogenic factors, or with deliberate simulation, or with all of these

Much of the existing confusion about these cases is attributable to the fact that the technical designations of traumatic conditions encountered in practice change so rapidly in their current significance in the mouths of judges, referees, lawyers, and physicians that it is at times impossible to know whether we all mean the same thing when we attach a given name to it. Take, for example, the term *cerebral concussion*, in some cases this term is applied to convey the idea that the patient is suffering from the effects of diffuse petechial hemorrhages in the brain, in others from diffuse edema, in others from changes in the hydrodynamics of the cerebrospinal fluid in the cranial cavity, in others from vascular spasm and interference with the intracranial circulation, and in still others from contusions in the so-called silent areas of the brain. Our knowledge of the mechanism of cerebral concussion is inadequate, and it is imperative that neurologists direct their attention to an accurate investigation of brains that have been subjected to trauma, taking into consideration the nature of the violence that has produced the pathologic changes in them.

There is no less confusion about the designation "traumatic neurosis." Some neuropsychiatrists employ this term to designate a type of reaction to terror and anxiety and to an emotional state accompanying a life-threatening situation. Others deny the existence of a traumatic neurosis altogether, because they say that in such cases one is dealing only with hysteria, or with neurasthenia or with a psychoneurosis indistinguishable from these conditions when they are due to other causes than trauma. Still others believe that in these cases the trauma serves as an apparent reason for a distress which may actually be due to a pre-existing, though not recognizable, mental or physical disorder, or to conflicts under which the patient was laboring and was, as Reichardt says, "just about to break."

There seems to be no general agreement as to the use of the designation "traumatic encephalopathy." Some employ this term to designate only cases in which there are clinical evidences that structural changes have occurred in the brain following a trauma to it. Others apply this designation to all cases in which physiologic disturbances of cerebral mechanisms are present although no organic changes are demonstrable, whereas still others prefer to designate these cases as litigation or compensation neuroses and regard the symptoms as reactions to the hope for recompense and desire for revenge.

There is no unanimity of opinion as to the significance of a positive encephalogram in cases following head trauma. Some observers are certain that a positive encephalogram is indicative of structural changes in the brain. Other equally reliable observers hesitate to attach such definite significance to positive intracranial aerograms because they claim that thus far no norms for encephalograms have been established as too few controls have been studied, although all observers agree that a positive encephalogram is of diagnostic significance only when taken in conjunction with the entire clinical picture.

As one's experience with these cases becomes more extensive and he is offered the opportunity to study and observe them for a prolonged period, the conviction is forced upon him that in all probability too many cases are pronounced as being psychogenic when they are in fact functional—they are probably due to disturbances in nerve cell function which are not necessarily registered by detectable histologic changes.

The neuropsychiatrist is not infrequently confronted with a most perplexing problem when he is called upon to express an opinion with a reasonable degree of certainty as to the causal relationship between a given injury and the development or aggravation of tumor of the brain, or of the spinal cord, or of a primary degenerative disease of the nervous system or of an endogenous psychosis.

An opinion is presumed to be based on factual knowledge and not merely on a guess. Who has sufficient factual knowledge of the causation of any of the conditions mentioned above to enable him to give under oath an opinion with a reasonable degree of certainty or even probability, affirming or denying the causal relationship between a trauma and any one of these conditions? Animal experiments have yielded no satisfactory information on this subject. As a matter of fact, except for the convulsive state following blows to the head and possibly some tumors, none of the conditions under discussion have ever been produced experimentally in animals. The literature contains as many expressions by authors affirming the production of some of these conditions by trauma as it does by other equally eminent authorities denying such occurrence. Various hypotheses are offered by the former in substantiation of their opinions. Some would attribute the appearance of some of these conditions to vascular damage, others to changes in the cerebrospinal fluid circulation leading to molecular disintegration, and still others to a tearing of the lymph spaces leading to necrobiotic processes in the nerve parenchyma, etc.

Hypotheses are not facts, and opinions based on hypotheses are not opinions but mere guesses. On what hypothesis or theory can one explain the occurrence or aggravation of a disease like amyotrophic lateral sclerosis with its progressive selective involvement of anterior horn cells and the pyramidal tracts, following an injury to the back so slight that the injured man was able to continue his work uninterruptedly during the next five days when it was noted for the first time that the man's gait was spastic? Yet I heard a neurologist testify under oath that in his opinion the amyotrophic lateral sclerosis was due to the injury. The truth of the matter is that our present knowledge of the facts of causal relationship in such cases is so inadequate that any opinion expressed concerning it is of no scientific value, and wholly within the realm of speculation.

In view of what has been said so far, I believe that until such time as the neuropsychiatrist will possess more and definite knowledge as to the etiology and pathogenesis of these conditions, he should not be required to give an opinion as to causal relationship. All that the neuropsychiatrist can offer to the law is the determination of the existence of the condition in question and the degree of disability therefrom. The causal relationship will then have to be determined by some artificial standard based on some such tests as these: (1) Was the injured person able to carry on his usual occupation in a regular manner immediately prior to the receipt of the injury? (2) Was the injured person free from symptoms of the disease from which he is suffering prior to the injury? (3) What was the temporal relationship between the appearance of the first symptoms of the disease and the time of the injury? (4) Is the injured person incapacitated as a result of the disease, and if so, to what extent?

So that, if the injured person was able to carry on before the accident, and was free from symptoms, and if, during a period, not too short nor too long following the accident there developed the physical or mental condition from which he is suffering, and as a result of which he is incapacitated from carrying on his regular occupation, he is entitled to compensation or damages as the case may be. Some such test as this, though not scientific, would in the present state of knowledge obviate the bugbear of causal relationship. Adjudications based on such a test would be more just and would fill the meaning and the spirit of the law of negligence and of the Workmen's Compensation Act.

It has been remarked by persons administering the compensation laws that they are surprised that physicians with high professional standards have excluded themselves from and been excluded from the field of compensation practice. I believe that if the principles that I have suggested were put into effect many more physicians of known integrity and ability would be attracted to this type of work.

Most of the evils popularly associated with expert medical testimony would be overcome and the latter would be raised to a higher level. This would inevitably lead to a better system of justice, and justice as Plato says "does not simply mean the virtue of rendering to all their due, but stands for that harmonious and proportional development of the inner man, by means of which each faculty of his

soul performs its own functions without interfering with the others. Just or virtuous actions consist in the performance of actions agreeable to the nature of the soul, whereas the contrary comprise such as are discordant to a right nature and productive of mental disturbance and agitation."

451 West End Avenue

## CONGRESS ON OBSTETRICS AND GYNECOLOGY

The first American Congress on Obstetrics and Gynecology will be held in Cleveland on September 11-15. The preliminary outline of the program for the medical section is as follows:

*Monday, September 11, 1939*

The Thyroid and Pregnancy  
Heart Disease and Pregnancy  
Diabetes and Pregnancy  
Tuberculosis and Pregnancy  
Nutritional Factors and Pregnancy  
The Surgical Abdomen Complicated by Pregnancy

The Treatment of Abortions

*Tuesday, September 12, 1939*

The New Conception of Ovarian Neoplasms  
Carcinoma of the Uterus  
Endometriosis  
Ectopic Pregnancy  
Sterility in the Female

*Wednesday, September 13, 1939*

Reduction of the Operative Incidence in Obstetrics  
Labor Complicated by the Contracted Pelvis  
Dystocia Due to Soft Parts  
Pathology and Treatment of the Third Stage of Labor

*Thursday, September 14, 1939*

Present Day Fundamental Knowledge of Hormones and Endocrine Glands  
Problems of Adolescence  
Problems of Menopause  
Diseases of the Mammary Gland

*Friday, September 15, 1939*

Sulfamidamide in Obstetrics and Gynecology  
Pyelitis  
Chronic Pelvic Infections

Immediate and Remote Complications Following Labor

### ROUND TABLES

*Running concurrently each day 11:45 to 1:15*

The Toxemias of Pregnancy  
Genital Infections  
Obstetric and Gynecologic Hemorrhages  
The Fetus and the Newborn  
Forceps, Occiput-Posterior, and Breech Presentation  
Anesthesia, Analgesia, and Amnesia in Labor

### JOINT AFTERNOON SESSIONS

*Monday, September 11, 1939*

Neonatal Care

*Tuesday, September 12, 1939*

Plans for Prevention and Control of Uterine Cancer

*Wednesday, September 13, 1939*

Extension Education on Maternal and Neonatal Care

*Thursday, September 14, 1939*

Economic Aspects of Maternal Care

*Friday, September 15, 1939*

Correlation of and Attempt to Digest all Proceedings

### JOINT EVENING SESSIONS

*Monday, September 11, 1939*

Legal Aspects of Maternity

*Tuesday, September 12, 1939*

Humanitarian Aspects

*Wednesday, September 13, 1939*

Sociologic Aspects

*Thursday, September 14, 1939*

Ethical Aspects

It is figured that hospital bills amounting to \$1,000,000 for about 12,000 babies and their

mothers in New York State will be paid through the Associated Hospital Service this year.

# PNEUMONIA IN THE WESTCHESTER COUNTY (NEW YORK) HEALTH DISTRICT,\* 1931-1935

EDWARD A. LANE, M D, White Plains, N Y

(Director Division of Communicable Diseases Westchester County Department of Health)

THE general interest in pneumonia that has been aroused in New York State by the campaign to reduce the mortality from that disease through the more extensive and more adequate use of antipneumococcal serum led the writer to assemble some statistical data concerning the recent prevalence of pneumonia in the Westchester County Health District. It was thought that such a study might serve to outline the problem a little more clearly at least in so far as the Westchester County Health District is concerned and that a base line would thus be obtained against which to measure local results.

The data here presented were obtained from the routine office records. Such material while readily accessible, offers but limited possibilities for study and lends itself more readily to descriptive than to analytic treatment. In the case of pneumonia there is a further limitation due to the fact that all forms of the disease are reportable with no distinction made between primary and secondary infections. Since bronchopneumonia occurs as a secondary infection much more frequently than does lobar pneumonia, it would be of some interest to be able to assign quantitative values to each of the pathologic varieties on this basis.

## Morbidity

The seasonal distribution of pneumonia morbidity with the greatly augmented numbers of cases in the winter and the spring is familiar to everyone. Expressed in terms of incidence in the Westchester Health District (Table I), 2,581 cases, representing 80 per cent of the total for the five-year period 1931-1935, were re-

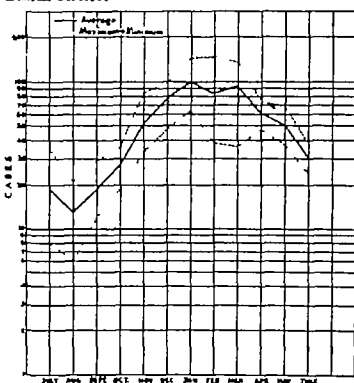
ported during the seven months from November to May. While for five year monthly totals, the largest number of cases occurred in January, for individual years, the largest monthly total fell in January twice, in March twice, and in February once.

Figure 1 is a composite presentation of prevalence for the five-year period from July, 1930, to June, 1935, showing the

TABLE I--REPORTED CASES OF PNEUMONIA (ALL FORMS)  
Westchester County Health District

| MONTH     | 1931 | 1932 | 1933 | 1934 | 1935 | TOTAL |
|-----------|------|------|------|------|------|-------|
| January   | 140  | 79   | 147  | 64   | 74   | 504   |
| February  | 149  | 97   | 85   | 51   | 39   | 421   |
| March     | 108  | 138  | 65   | 129  | 37   | 477   |
| April     | 68   | 55   | 47   | 74   | 60   | 305   |
| May       | 38   | 69   | 55   | 39   | 53   | 254   |
| June      | 25   | 34   | 34   | 39   | 24   | 156   |
| July      | 19   | 35   | 23   | 12   | 13   | 102   |
| August    | 18   | 8    | 21   | 13   | 20   | 80    |
| September | 28   | 14   | 29   | 13   | 24   | 108   |
| October   | 26   | 36   | 35   | 19   | 35   | 151   |
| November  | 47   | 57   | 85   | 34   | 26   | 249   |
| December  | 80   | 99   | 94   | 69   | 39   | 371   |
| TOTAL     | 740  | 722  | 730  | 556  | 434  | 3,178 |

Figure 1 Pneumonia morbidity all forms, July 1930 to June 1935 Westchester county health district

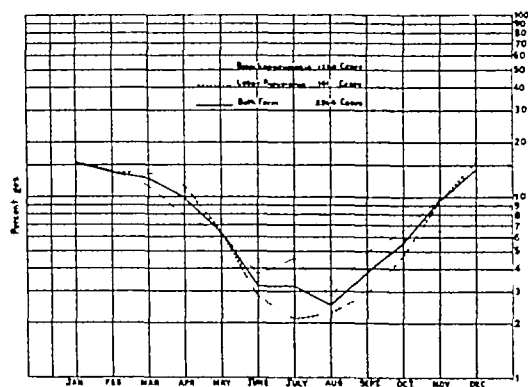


\* Westchester County exclusive of Mount Vernon, New Rochelle and Yonkers. The population of the District for 1933, the midyear of the period under consideration, was estimated to be 289,414.



TABLE II—PNEUMONIA MORBIDITY BY DATE OF ONSET  
Westchester Health District, 1931-1935

| MONTH     | BRONCHO-PNEUMONIA |             | LOBAR PNEUMONIA |             | TOTAL  |             |
|-----------|-------------------|-------------|-----------------|-------------|--------|-------------|
|           | Number            | Per-centage | Number          | Per-centage | Number | Per-centage |
| January   | 191               | 15          | 246             | 15          | 437    | 15          |
| February  | 172               | 14          | 220             | 14          | 392    | 14          |
| March     | 143               | 11          | 220             | 14          | 363    | 13          |
| April     | 99                | 8           | 185             | 12          | 284    | 10          |
| May       | 79                | 6           | 103             | 6           | 182    | 6           |
| June      | 47                | 4           | 46              | 3           | 93     | 3           |
| July      | 57                | 5           | 34              | 2           | 91     | 3           |
| August    | 35                | 3           | 37              | 2           | 72     | 3           |
| September | 62                | 5           | 47              | 3           | 109    | 4           |
| October   | 81                | 6           | 76              | 5           | 157    | 5.5         |
| November  | 122               | 10          | 151             | 9           | 273    | 9.5         |
| December  | 162               | 13          | 249             | 15          | 411    | 14          |
| TOTAL     | 1,250             | 100         | 1,614           | 100         | 2,864  | 100         |

Figure 2 Percentage distribution of pneumonia morbidity, by months, by date of onset  
Five year totals, 1931-1935

mean, maximum, and minimum numbers of cases for each month. This type of graph is useful for comparing current incidence with past experience. It brings out for the data here presented the gradual and prolonged nature of the seasonal increase with a plateau effect from January to March. The graph was constructed on the basis of a July-to-June year to preserve the upward sweep of the curve in an unbroken contour.

When the seasonal incidence of pneumonia is presented separately for the lobar and the bronchial forms (Table II, Figure 2), the former is found to exhibit a somewhat greater variation between seasons of maximum and of minimum prevalence. That is to say, there is a relatively larger number of lobar pneumonia cases in the spring and a relatively smaller number in the summer and early autumn.

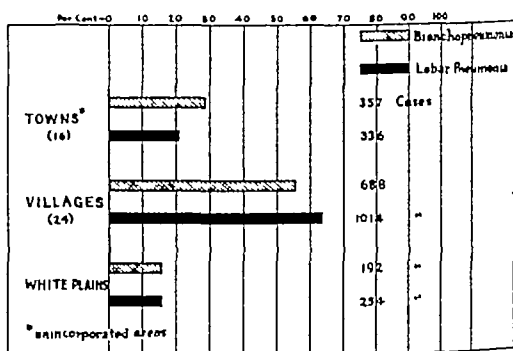
This suggests that lobar pneumonia is affected to a greater degree by seasonal changes.

Because of the closer conformity of lobar pneumonia to the status of a primary infectious disease, it might be expected that the incidence of that form would be affected to a greater degree than bronchial pneumonia by density of population. A rough attempt was made to

TABLE III—PNEUMONIA MORTALITY  
Westchester Health District, 1931-1935

| MONTH     | BRONCHO-PNEUMONIA |             | LOBAR PNEUMONIA |             | TOTAL   |             |
|-----------|-------------------|-------------|-----------------|-------------|---------|-------------|
|           | Num-ber           | Per-centage | Num-ber         | Per-centage | Num-ber | Per-centage |
| January   | 57                | 15.0        | 99              | 15.6        | 156     | 15.4        |
| February  | 50                | 13.1        | 88              | 13.9        | 138     | 13.6        |
| March     | 46                | 12.1        | 82              | 12.9        | 128     | 12.6        |
| April     | 31                | 8.1         | 61              | 9.6         | 92      | 9.1         |
| May       | 31                | 8.1         | 64              | 10.1        | 95      | 9.4         |
| June      | 15                | 3.9         | 27              | 4.3         | 42      | 4.1         |
| July      | 17                | 4.5         | 16              | 2.5         | 33      | 3.2         |
| August    | 14                | 3.7         | 20              | 3.2         | 34      | 3.3         |
| September | 15                | 3.9         | 16              | 2.5         | 31      | 3.1         |
| October   | 30                | 7.0         | 36              | 5.7         | 66      | 6.5         |
| November  | 35                | 9.2         | 51              | 8.0         | 86      | 8.5         |
| December  | 40                | 10.5        | 74              | 11.7        | 114     | 11.2        |
| TOTAL     | 381               | 100         | 634             | 100         | 1,015   | 100         |

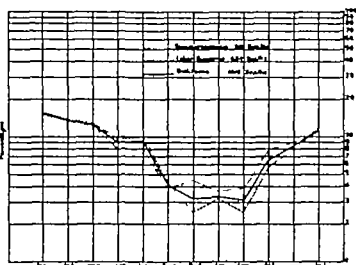
Figure 3 Pneumonia morbidity, county health district, 1931-1935. For town, village, and city groups.



discover whether the effect of such an influence could be demonstrated in Westchester by computing the percentage distribution of cases of each form among the municipalities arranged in three groups, i.e., city of White Plains, twenty-four villages, and the unincorporated portions of the sixteen towns. The result is shown in Figure 3. Since actual density figures for these groups are not known, comparison between White Plains and the village group cannot be made. There is, however, no question about the

fact that the group of towns has a much smaller density than either of the other two groups. It is therefore interesting to note that the number of cases of lobar pneumonia was actually as well as relatively smaller in the town group whereas the reverse was true in the village group with denser population. The absence of the anticipated disparity in the relative prevalence of the two forms in White Plains may be due to the occurrence in 1934 of a large measles epidemic in that

Figure 5 Pneumonia mortality by months by date of death. Five year totals, 1931-1935



and bronchial forms separately. The predilection of the latter for the very young and the very old and the more frequent occurrence of the former in early and middle adult life are well known. In the absence of population figures by age groups, the age distribution of cases is shown (Figure 4) by computing the percentage of each of the two forms in the total number of cases at each age group. Lobar pneumonia is thus found to have constituted approximately three-quarters of the pneumonia cases at ages 15-24, 25-34, and 35-44. While this represents the greatest preponderance of cases of this form, lobar pneumonia exceeded bronchopneumonia at all ages except under 5 years and at 75 years and over. The difference in age group 65-74 was, however, very slight. Of the total number of cases for which this information is available (2,858), it will be noted that 56 per cent were of the lobar form.

It was also found that whereas the cases of bronchopneumonia were evenly divided between the two sexes, 58 per cent of the lobar variety occurred in males.

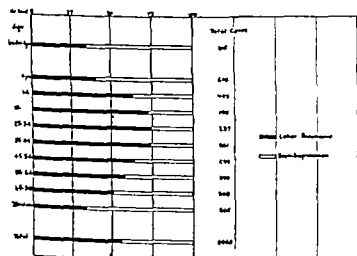
### Mortality

The seasonal distribution of pneumonia deaths (Table III, Figure 5) corresponds in a general way for both the lobar and the bronchial forms with the morbidity distribution. There is the same gradual decline during the winter and spring to a prolonged low level in the summer which is followed by a more abrupt rise in the

TABLE IV—PNEUMONIA MORTALITY—BY AGE  
Westchester Health District, 1931-1935

| AGE          | BRONCHOPNEUMONIA |            | LOBAR PNEUMONIA |            |
|--------------|------------------|------------|-----------------|------------|
|              | Number           | Percentage | Number          | Percentage |
| Under 1 year | 72               | 17         | 25              | 4          |
| 0-4          | 118              | 28         | 60              | 9          |
| 5-14         | 13               | 3          | 24              | 4          |
| 15-24        | 14               | 3          | 25              | 4          |
| 25-34        | 12               | 3          | 54              | 9          |
| 35-44        | 12               | 3          | 86              | 15         |
| 45-54        | 23               | 6          | 93              | 16         |
| 55-64        | 66               | 13         | 107             | 18         |
| 65-74        | 60               | 14         | 83              | 14         |
| 75-Up        | 108              | 25         | 63              | 11         |
| TOTAL        | 426              | 100        | 583             | 100        |

Figure 4 Pneumonia morbidity county health district, 1931-1935. Percentage distribution of lobar and bronchopneumonia by age groups.

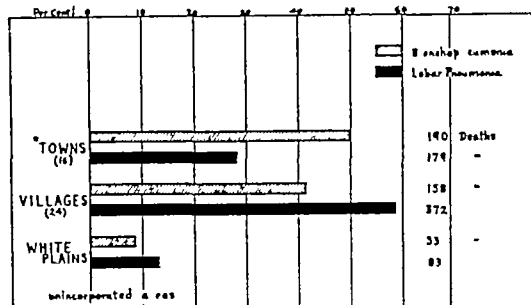


city numbering about 1,300 cases. There was a corresponding increase in bronchopneumonia to the extent of about 40 per cent over the number of cases for the next highest year in the 1931-1935 period.

Of the five year total number of cases of all forms, 61 per cent occurred in villages, 24 per cent in towns (unincorporated portions), and 15 per cent in the city of White Plains.

The age distribution of pneumonia is of little value unless considered for the lobar

Figure 6 Pneumonia mortality, 1931-1935, county health district. For town, village and city groups



fall The peak of mortality for both forms is in January

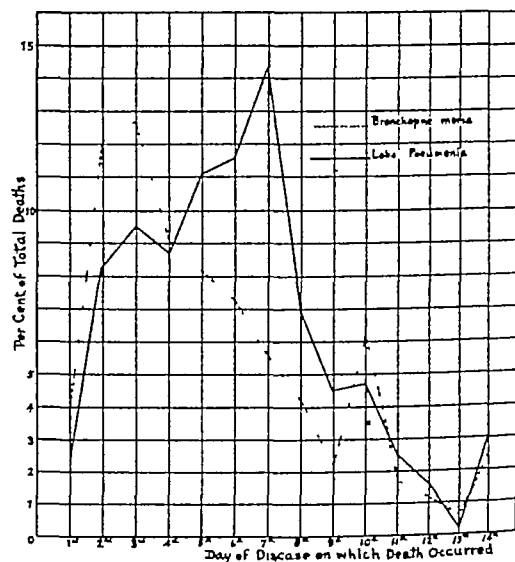
The distribution of deaths from each form by town, village, and city (White Plains) groups shows (Figure 6), when compared with a similar arrangement of cases (Figure 3), a very marked relative excess of deaths over cases in the town group. While this holds true for both forms it is more pronounced for bronchopneumonia of which the town (rural) group of municipalities had 50 per cent of the deaths but only 29 per cent of the cases. For lobar pneumonia the percentages are 28 and 21, respectively. Two possible explanations for this inequality suggest themselves, either that cases of pneumonia are not recognized or are not reported with the completeness that prevails in the village group and in White Plains or that medical care in its broadest sense, including nursing service and facilities for hospitalization, is not as adequate. Possibly both are factors. It will be noted, however, that, in addition to the relatively higher mortality in the towns, the percentage of deaths from bronchopneumonia for that group actually exceeds the corresponding percentage for the villages in which both the population and the percentage of cases are much larger than in the town group. It does not seem probable that this preponderance of mortality in the towns could be due solely to incomplete case reporting.

The age distributions of mortality from bronchial and lobar pneumonias (Table IV) show the characteristic way in which

each form levies its toll with heavy concentrations of deaths from the bronchial form in the early and later years of life and with the larger percentages of deaths from lobar pneumonia in the four decades from 35 to 74 years. The most favorable age from the point of view of low mortality from both forms is the period from 5 to 24.

In this series of 1,011 deaths, 42 per cent were due to bronchopneumonia leaving 58 per cent caused by lobar pneumonia. Whereas the distribution by sex of the former was 52 per cent males to 48 per cent females, 56 per cent of the

Figure 7 Pneumonia as primary cause of death, county health district, 1931-1935. Duration of illness



deaths from lobar pneumonia were in males

The duration of the illness was tabulated from the death certificates for 355 fatal cases of primary bronchopneumonia and 493 fatal cases of primary lobar pneumonia. Of the former, 59 per cent of the deaths occurred during the first week of the illness and 19 per cent during the second week. For the lobar form the corresponding percentages were 66 and 23, respectively, thus indicating a shorter course in general for the latter. The distribution by days, of deaths occurring

during the first two weeks of the illness is shown in Figure 7 as percentage of total deaths for each form. The influence of selection is seen in the peaks that occur on the third, seventh, tenth, and fourteenth days. The tendency shown in these curves to a longer duration of the illness in the lobar form may be due to the more insidious nature of the onset in bronchopneumonia.

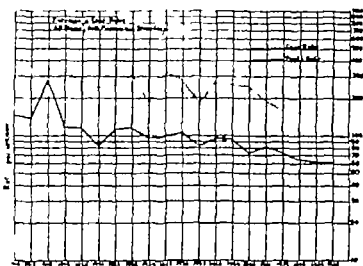
Of 714 deaths from bronchopneumonia, this form of the disease was assigned as a primary cause of death in 60 per cent and as a contributory cause of death in 40 per cent. This is, of course, in sharp contrast to lobar pneumonia which in a total of 642 deaths was given as a primary cause of death in 91 per cent and as a contributory cause in only 9 per cent. Separated by sex, pneumonia occurred as a primary cause of death more frequently in males by 55 to 45 per cent, while as a contributory cause the division between the two sexes is about equal. This is a reflection of the greater prevalence of lobar pneumonia among males.

#### Annual Rates

While the curves of morbidity and of mortality (Figure 8) both show a decided downward trend, the former has fallen to a somewhat greater degree than has the latter. During the period from 1922 to 1935 the morbidity rate decreased from 323 to 158, a drop of 51 per cent, while the mortality rate fell from 114 to 61, a decrease of 46 per cent. The peak in the mortality curve for 1918 was, of course, due to the epidemic prevalence of influenza at that time. These rates include both forms of pneumonia and, in the case of the morbidity rates, both primary and secondary infections whereas the mortality rates are for primary cause of death only.

The average annual morbidity rates were computed for certain subdivisions of the health district for the 1931-1935 period on the basis of the mid year population. According to these computations the rate for the district as a whole was 232, that for the city of White Plains, 240, and the rate for the rural area including the

Figure 8. Pneumonia death rates, county health district. Primary cause of death only both bronchopneumonia and lobar pneumonia.



unincorporated portions of the towns and five small villages, 201. There was a wide variation in the rates for the remaining nineteen villages ranging from 57 for Irvington to 480 for Mt. Kisco. The grouping of these villages by magnitude of rate is as follows:

| Rate    | Number of Villages |
|---------|--------------------|
| 0-100   | 4                  |
| 101-200 | 4                  |
| 201-300 | 8                  |
| 301-400 | 2                  |
| 401-500 | 1                  |

It is not possible from the available office records to determine a satisfactory fatality rate for pneumonia. As has previously been mentioned, the morbidity records include both primary and secondary infections with no way to distinguish between these two groups of cases. Pneumonia, especially of the bronchial form, occurs frequently as a secondary or complicating infection and thus contributes indirectly to the death rates of other diseases. While this is in itself of considerable importance, we are here more concerned with the fatality rate of pneumonia per se. Lobar pneumonia is known to occur most frequently as a primary infection and this is born out by the returns on the death certificates for that form of the disease. In only 9 per cent of the fatal cases in which lobar pneumonia was involved was it listed as a contributory cause of death. It would

seem, therefore, that a fatality rate for lobar pneumonia based on total reported cases (which include both primary and secondary infections) and total deaths (both as primary and contributory cause of death) would represent primary infections to so great a degree that a fairly accurate picture would be obtained of the death dealing propensities of this form as a distinct disease. Such a computation gave the following results by age groups

| Lobar Pneumonia |               |
|-----------------|---------------|
| Age             | Fatality Rate |
| Under 1 yr      | 39            |
| 0- 4            | 23            |
| 5-14            | 11            |
| 15-24           | 20            |
| 25-34           | 35            |
| 35-44           | 46            |
| 45-54           | 54            |
| 55-64           | 66            |
| 65-74           | 68            |
| 75 & over       | 77            |
| All Ages        | 40            |

The fatality rates for lobar pneumonia by sex were 39 for males and 41 for females in totals of 1,613 cases and 642 deaths

Prevalence of Types

During the period 1931-1935 the serum treatment of pneumonia was confined very largely to type I. Although serum for type II had been supplied by commercial laboratories for some time prior to that date, it was not made available by the State Department of Health until about January, 1937. Differentiation of type of pneumococcus was therefore limited very largely to the original grouping of types I, II, and III and a fourth group that included all pneumococci not belonging to one of these three types

| Year  | I   | II | III | IV* | Total |
|-------|-----|----|-----|-----|-------|
| 1931  | 25  | 14 | 27  | 104 | 170   |
| 1932  | 32  | 9  | 22  | 162 | 225   |
| 1933  | 41  | 6  | 21  | 125 | 193   |
| 1934  | 30  | 8  | 10  | 131 | 179   |
| 1935  | 25  | 7  | 16  | 153 | 201   |
| Total | 153 | 44 | 96  | 675 | 968   |

\* All types other than I, II, and III

Typing examinations by the various laboratories for patients in the health district showed the foregoing results

But 16 per cent of the cases were of the type for which state antipneumococcic serum was available. The inclusion of type II cases for which commercial serum could be obtained would raise the percentage of cases that could have been treated with antipneumococcic serum to only 20. With serum now being supplied for additional types, the scope of the typing examination has been correspondingly extended and the possibilities of serum treatment increased.

One laboratory has reported examinations in 1934 and 1935 for types V, VII, and VIII with a total for these three types of only 18 cases out of a group of 135 representing types other than I, II, and III. Since state serum is now available for these additional types, the limited experience of this one laboratory (total of 166 positive examinations for the two years) would indicate that only about 30 per cent of the lobar pneumonia cases are of a type for which state serum is now being distributed.

The foregoing data suggest the inadvisability of becoming over optimistic regarding the results to be anticipated from the current campaign to promote the use of pneumonia serum. A good index of the effectiveness of our activities along this line would be the relative prevalence of the different types in fatal cases. This information for the health district is not now available. It is, however, some consolation to note in the above tabulation that type III, an especially virulent variety of organism for which an effective serum is not yet available, occurred in only about 10 per cent of the cases.

Use of Antipneumococcic Serum

There is no way of determining how many pneumonia patients received serum during the five-year period under consideration. The information cannot be got even indirectly since we know neither the amount of serum that was obtained from the commercial laboratories nor the average dosage administered.

The record of state serum distributed through the Westchester County Health Department which is the central distributing agency for the health district is as follows

| Year  | Number Packages |
|-------|-----------------|
| 1931  | 13              |
| 1932  | 45              |
| 1933  | 14              |
| 1934  | 52              |
| 1935  | 47              |
| Total | 171             |

During these years the supply was limited to unconcentrated, type I serum put up in 50 cc packages

A comparison of the foregoing figures with the numbers of type I examinations previously given fails to disclose any obvious relationship between the two

### Summary

1 Eighty per cent of a total of 3,178 cases were reported during the seven months from November to May with the largest number of reports falling in January. The peak of the mortality curve for each form is in January, also

2 Lobar pneumonia morbidity appears to be affected by seasonal changes to a greater degree than does bronchopneumonia.

3 The incidence of lobar pneumonia appears to be influenced by density of population, becoming greater with increased density

4 Of a total of 2,858 cases, 56 per cent were lobar and 44 per cent, bronchopneumonia. Of a total of 1,011 deaths, 58 per cent were due to lobar pneumonia and 42 per cent to bronchopneumonia

5 Whereas bronchopneumonia is evenly divided between the two sexes, lobar pneumonia is more prevalent in males. There is a similar distribution of deaths.

6 Bronchopneumonia occurs more frequently than lobar pneumonia under 5 years of age and at 75 years and over, the latter predominates from 15 to 44 years of age

7 The mortality from both forms is relatively greater in the towns (rural) than in the villages (suburban) or in White Plains (urban)

8 The larger percentages of bronchopneumonia deaths are in the early and later years of life, lobar pneumonia deaths are most numerous from 35 to 75 years

9 In fatal bronchopneumonia 41 per cent of the illnesses lasted more than one week and 22 per cent, more than two weeks. Corresponding percentages for fatal lobar pneumonia are 34 and 11, respectively

10 Bronchopneumonia was designated as a primary cause of death in 60 per cent and as a contributory cause, in 40 per cent of the deaths from that form. Corresponding percentages for lobar pneumonia are 91 and 9, respectively

11 From 1922 to 1935 the morbidity rate decreased by 51 per cent and the mortality rate by 46 per cent.

12 The average annual morbidity rate for the health district for the 1931-1935 period was 222 per 100,000

13 The approximate fatality rate for lobar pneumonia during 1931-1935 was 40 for all ages. It was highest (77) at 75 years and over and lowest (11) at 5 to 14 years. By sex the fatality rates were 39 for males and 41 for females

14 Not more than 20 per cent, at most, of the 968 cases for which results of typing examinations are available could have been treated with serum (I and II)

15 The numbers of patients treated with serum from 1931-1935 cannot be determined.

Pollution of the waters of the Hudson River valley by sewage from towns along its shores or on its tributaries is rapidly decreasing. Thirty communities now have sewage treatment plants

in operation and many more are under construction in the valley. Only fourteen communities along the Hudson and three on its tributaries have taken no action.

# THE RESPONSIBILITY OF THE PHYSICIAN IN PREVENTIVE PROCTOLOGY

LOUIS A. BUIE, M D

(Section on Proctology, The Mayo Clinic, Rochester, Minnesota)

**C**URSORY investigation of the indices of medical publications reveals that on an average of at least once every two days in the past ten years a paper on the subject of diseases of the colon, rectum, or anus has appeared in some accredited medical journal. Further, at least once every week during the same period, an article on hemorrhoids has been published and 40 per cent of these articles have dealt with nonsurgical treatment. Many of these writings are fundamentally sound. Also, in some textbooks is given dependable material based on dependable experience. On the other hand, a great deal of what has been published has no value and some of it is productive of harm because the ideas presented, although erroneous, seem plausible.

There are many so-called practical manuals which deal with the treatment of hemorrhoids. Often they are short and easy to read and some of them present alluring schemes which the authors have developed after personal experience which they consider valuable. In some such manuals are found facts but in addition often there are descriptions of methods which may be productive of disaster. Some individuals who rely on such sources of information concerning proctology, after a few years' experience become imbued with the idea that they must limit their work to the treatment of "rectal" diseases. One such person wrote that all hemorrhoids could be cured by injection. Imagine what may happen when such measures are attempted by those who have had little or no experience. I venture to say that it is not by seeking the startling or bizarre but by attending to, and educating patients in, well recognized aspects of rectal and anal disease,

that the physician can contribute most to preventive proctology. Thought and effort expended on some of the minor anorectal disorders with which the succeeding paragraphs deal often will forestall serious illness.

## The Patient's Complaint and Its Significance

The physician makes a troublesome error in handling the simpler types of anorectal disorders when he minimizes the significance of the disease. In the first place the problem appears much more significant to the patient and he may immediately regard the physician with suspicion, and besides, he is surprised later, when a throbbing pain sends him home and to bed. His disillusionment is complete if the wound becomes infected and days drag on before he is able to give full time to his business activities.

A patient may believe he has hemorrhoids and his grounds for this belief may be that he suffers with any one or any combination of the following conditions: backache, indefinite pain up inside the pelvis, constipation, general inefficiency and fatigue, insomnia, and so forth. The misfortunes of such an individual may be increased when hemorrhoids are found and removed without further search for the cause of the trouble. It never occurs to the patient, later, when his back still continues to incapacitate him, that it was his statement which implanted in the physician's mind the thought that hemorrhoids might be the cause of the backache. As a matter of fact, it is unfair to allow such a patient to go through an operation on the basis of his own belief as to what the trouble is. Usually it is some type of discomfort

*Read by invitation at the Annual Meeting of the Medical Society of the State of New York, New York City, May 12, 1938*

which brings the patient to the physician's office. Many times a patient who finds that something is wrong with his habits will pass the matter by, try to make the best of it, and wait to see what will happen. He may make use of some home remedy. When pain develops and he is unable to obtain relief from it he will usually consult a physician. It is in this particular that the physician is confronted by the most tragic circumstance. Due to the peculiarity of the nerve supply of the rectum, malignant lesions involving it never produce pain early unless they extend low enough to involve the tissues of the anus as well.

Patients may present themselves with a complaint of hemorrhoids, some have them but many have not. Both types may arrive at their conclusion because of the presence of blood and the physician is unpardonable who prescribes laxatives, ointments, or suppositories without first making the proper investigation. Even if the patient is examined superficially and it is found that he has hemorrhoids, and even if these hemorrhoids are found to exist in profusion, he should not be sent away until it has been determined, if possible, if a more serious lesion is lurking in the upper recesses of the rectum or lower part of the sigmoid. The obvious explanation must not be accepted until it can be proved that the other more serious possibility does not exist.

The physician should be on guard for the case in which a troublesome frequency of stool, accompanied by the discharge of blood and pus, is associated with a carcinoma of the rectum or sigmoid. This condition should of course be discovered by careful digital examination and a proctoscopic examination certainly will dispel all doubt. It is well known that patients who have rectal disease will defer consultation with the physician as long as possible and this is one of the chief reasons why proctologists are so handicapped in their attempts to deal with the cancer problem. Although bleeding, protrusion, and pain figure prominently as accompaniments of

hemorrhoidal disease, they are not always productive of enough inconvenience to cause undue concern. It is not surprising, therefore, to find that 32 per cent of our patients know of their trouble for at least ten years and that 80 per cent allow at least a year to elapse before coming for examination. When the significance of the lapse of a year in the development of a rectal carcinoma is considered, especially when the physical evidence of such a lesion begins only after it has reached a stage when it will bleed or produce signs of relatively advanced development, the importance of seizing the first opportunity to make a thorough investigation should be appreciated. It should be strongly urged that all patients who have symptoms referable to the rectal outlet be considered to have carcinoma until it is proved that such a lesion does not exist. If a patient would only greet the physician with the statement that he has cancer instead of hemorrhoids the physician would regard his problem more seriously and if the patient actually believed that he harbored a cancer he would come earlier and demand exhaustive examination.

One of every seventeen patients who come to the Mayo Clinic complaining of rectal trouble, has cancer of the terminal colon or anus, and one of every four of these patients who have cancer has received treatment for some other supposed rectal condition during the period of his chief illness, the cancer remaining undiscovered. This failure is owing to the attitude of the two chief parties concerned, namely, the physician and the patient, and can be corrected by the proper alteration of this attitude. It is difficult to convince the patient that as soon as he notices any peculiarity of function of his bowel he should consult his physician.

#### **The Patient's Reluctance to Seek Examination and the Physician's Responsibility**

The moment a patient is willing to present himself for the consideration of some disorder pertaining to the function



of the anus, rectum, or colon, he is entitled to most careful attention, the most significant part of which is thorough examination with the proctoscope

During proctoscopy, the physical and mental condition of the patient should be determined and efforts in his behalf should be modified by these factors. There are two circumstances of which the examiner may be sure, namely, either the patient has had a proctoscopic examination previously or he has not. In the latter instance he knows little of what will happen to him and the idea which he has formed of what is in store for him, gained either from his own imagination, or as a result of experiences which have been recounted to him by friends who have already been through the examination, leaves him in a confused and often skeptical state. Those who have already been subjected to proctoscopy seldom have had their co-operative abilities improved by the experience. Rarely one finds an individual who has neither been examined in this manner, nor has he any information regarding it. Success with this patient will depend on his nervous make-up, on the presence or absence of a pathologic condition, and on the capabilities of the physician. These factors, of course, apply to all types but the additional features just mentioned exert a significant influence. More rarely will the patient be that phlegmatic person who, knowing nothing of proctoscopic examination, also has no concern about it, and moreover harbors no pathologic or anatomic condition which makes painless examination impossible.

A physician should encourage those afflicted with rectal disorders to present themselves for examination as early as possible and teach them to be unashamed. They should be told of the painlessness of early rectal carcinoma and of the grave significance of the passage of blood before, during, or after defecation. Only in this manner will it be possible to lessen the period of uncertainty which is so costly and which many patients will

avoid if they know how. They neglect their condition because they do not realize its significance and because they possess a sense of modesty which should not be considered false. It is a characteristic which is possessed by many who have come under the influence of social refinement. They often fear medical attention, not only if an operation is required but even during an examination, and it is lamentable that their fears are often justified. They have learned the truth from those who have had similar conditions and have sought cures advertised in journals, circulars, and newspapers. They see a refuge in the glowing descriptions of the various "painless pile dissolvents" and "cures" of fissures, fistulas, papillae, prolapse and pockets, without the knife. There is a normal response when they embrace such measures and the physician should not be dismayed at the popularity of those who are the authors of such schemes.

I would not carry the impression that a proctoscopic examination as a rule is difficult to perform. Even the most experienced examiner may occasionally find himself involved in a series of "impossible" cases. This happens in all branches of medicine. However, if due consideration is given to the patient and if the examiner possesses the proper technical skill, nine out of ten proctoscopic examinations should be performed without difficulty. No prescribed technique can be followed during proctoscopy. After the salient anatomic features have been described and the psychologic factors have been discussed, practically everything else must be left to the capability and ingenuity of the examiner.

Too much consideration cannot be given to those factors which concern the attitude of the patient preceding, during, and immediately following an examination. It is surprising how important are the simplest little details and it is not unusual for the examiner's entire effort to be rendered useless by failure to observe some apparently inconsequential feature of the management of the patient.

## Constipation, Hemorrhoids, and Laxatives

The proper function of one machine cannot always be considered a criterion of the normal functions of all. Some people are normally fat, others are normally thin and many people make a great mistake when they attempt to make their figures fit the dimensions and weights of some published chart. It is like this with the activity of the colon. Whereas it is generally considered normal for an individual to have one evacuation of the bowel each day, it is by no means unusual to find perfectly well persons who have a movement every other day or every third day, and sometimes even a week may elapse between defecations. Certain primitive people go a week or two, regularly, without emptying the colon, and there are authentic instances wherein patients have been known to go as long as a month, two, and even three months with no movement of the bowel. On the other hand, there are individuals who can be considered normal who have two or three stools a day. So that, in taking any history, it should first be ascertained what is the regular, normal bowel habit of that particular individual, or what it was before he considered it necessary to seek medical care, and then the physician should proceed to find out when and in what manner this habit has been altered.

The use of laxatives, or possibly I should say their misuse, probably is responsible for the development of hemorrhoids as frequently as any other single factor. When patent medicines are exploited by an array of competitive advertising organizations for purely commercial reasons, one who considers the present problem would shirk his responsibility if he should pass the subject without comment. The question as to whether hemorrhoids cause constipation or whether constipation causes hemorrhoids can be answered correctly by an affirmative response to either inquiry. By merely regarding the comparative ages of patients who have the two conditions, I feel that a significant clue is available. Hemorrhoids rarely

afflict youths, but constipation, especially among those who have trouble overcoming the habit, frequently begins in the early years of adolescence. Many persons begin the use of laxatives while in their 'teens' and often indiscreet parents give them laxatives while they are yet babies or young children. When these individuals reach adult years, often they cannot remember when they could get along without the use of some laxative, and many cannot remember ever having had a normal bowel movement. There are thousands of patented remedies and the baneful effect of many of them cannot be overstated. It is unfortunate that, in the constant endeavor to popularize use of his products and to increase his income, man deliberately will sacrifice the physical comfort and safety of his neighbor, by propaganda and misrepresentation.

## Cleanliness in Health and in Disease

It would be desirable, were it possible, to establish a routine of personal cleanliness in regard to the care of the rectal outlet. There are few, even among the most refined people, who realize how inadequate are the methods usually employed in cleaning the part following defecation, and the task of correcting this is insuperable. If an individual will use any of the usual types of toilet paper after defecation and then will cleanse the parts further with a piece of moist cotton or gauze, invariably he will note a considerable residue of bowel discharge and fecal stain on the fabric. Probably healthy tissues are able to withstand any effect which might be produced by constant exposure to filth of this type, but it cannot be denied that when tissues are subjected to any strain which is sufficient to produce solution in their continuity, they will be rendered more vulnerable and much more likely to succumb to invasion by micro-organisms.

The application of active therapeutic measures begins with those simple methods employed to prevent the spread of infection in cases in which the crypts and papillae have, at the beginning, become

involved by mild inflammatory disease. In such cases an irrigation, or a small, warm enema of plain water or saline solution should be used daily following evacuation of the bowel. The purpose of this procedure is to cleanse the lower rectum and the anal canal in such a manner as to prevent their exposure to fecal discharges, therefore, the accumulation of large quantities of the solution in the lower colon should be avoided because, unless this precaution is taken, the peristaltic activity of the bowel will be stimulated and further evacuation of the colon will result. This will make an endless task of each session and, in addition, may produce irregularity in the bowel habit, which is undesirable. Patients can be carefully instructed regarding this part of the treatment, so that they can take care of it themselves while seated on the toilet, and by using a small, well-lubricated catheter they can move its tip back and forth within the anal canal, thereby cleansing the parts with little difficulty. Following this, they can lubricate the parts by applying a little white vaseline with the finger tip, covered with an ordinary finger cot, and often such treatment will suffice.

It may be advisable, in addition, to have the patient report each day, following such treatment, and he can then be assisted by irrigating the anal canal and lower rectum with an aqueous solution of metaphen, witch hazel, or some other suitable medicated solution. The physician should not merely prescribe ointments, or suppositories, to be applied by the patient himself, and expect a satisfactory result. It should be apparent that little can be expected in the way of relief, by the application of such medicaments, if they are administered in the presence of bowel discharges. If they are used, as is often the case, before the bowel is evacuated, they will only stimulate defecation and thus destroy any helpful effect which might have been produced had they been applied at the proper time. All medical types of treatment, thus outlined, should be accompanied by suitable examinations

in order to determine the response to treatment and in order to alter the character of treatment when necessary.

### Complete and Incomplete Hemorrhoidectomy

Physicians should not follow old-fashioned schemes, without regard to the problems involved in any individual instance. It is said, for example, that hemorrhoids develop in three main groups—one on the left and two on the right side of the rectal outlet. It is said also, that hemorrhoids should be removed in three main groups, "being sure to leave a strap of mucous membrane" between the points where the hemorrhoids were removed. The caution also has been given that these three straps should represent no less than a third of the circumference of the anorectal outlet, in order to avoid the development of stricture, but the ever-present group of post-operative marginal external tags and deformities proves the faithfulness with which such teachings have been observed. It might have been better if such methods never had been taught because we are still operating on patients who underwent hemorrhoidectomy thirty years or more ago and, worse than that, we are operating on patients who have had these obsolete methods applied to them more recently.

It should be understood that by careful technic and the proper regard for sound principles in the care of infected wounds, all of the hemorrhoids can be removed without producing undesirable distortion or disturbing the function of the parts. Following a properly performed hemorrhoidectomy, hemorrhoids will not recur and it is only when all hemorrhoids have not been removed that they do recur. The surgeon's fear of causing stricture is the reason why, in some cases, hemorrhoidectomy is incomplete and when operation on some of the more complicated types of hemorrhoids is considered, it is easy to understand why inexperienced persons should entertain this fear. However, experience has proved that such fear is unfounded if the

operation is properly performed and if the parts remain in place, as they were at the conclusion of the operation, undisturbed by the sloughing which complicates wounds which do not receive proper attention.

### Prerequisites to General Improvement in Proctologic Work

The medical profession has discharged well its duty to the public, and to point out something that needs further attention by members of the profession is not to condemn the profession or to minimize its efforts. Nevertheless, to some physicians it has been a matter for boasting that they cannot be bothered with 'rectal cases', to many more it has been a matter of regret. As long as some members of the medical profession are willing to pass lightly over rectal problems, they may expect those who employ business methods in medical practice to flourish.

Whenever a patient with rectal trouble consults these so-called charlatans, the utmost consideration is given to the problem presented. The experience of many such practitioners is broad and their skill in conducting examinations and administering treatment is often better than that of many who shun them. Therefore, as physicians review the history of medical practices and observe the type of rectal surgery that has been

approved by some legitimate surgeons, when they consider the lack of equipment for diagnosis and treatment of anal and rectal disease which some of their colleagues possess, when they consider the indifferent attitude toward anorectal disease of some who are at the head of hospitals and teaching institutions, and when they realize the horror of "pile," fissure, and fistula operations, which has been passed on from one generation of laymen to another, the evils should be recognized and knowledge gained which should reveal the remedy.

This remedy will come only through a proper alteration in the present attitude of the representative men in the medical profession. Those who have ability must interest themselves sufficiently in this type of work. Some should do the work as a part of their general practice or as a part of their duties as internists and surgeons, some should go a step further and carry on this work more intensively, while others should limit their work to proctology and proceed not only to care for patients but to seek to increase the facilities for the teaching of proctology both in undergraduate and in postgraduate institutions. Most of all, it is necessary that those who are at the head of hospitals and teaching institutions give opportunity to those who are interested in the work and are ambitious to help with its advancement.

### MYSTERIOUS HUMAN BAROMETERS

A St. Louis doctor has a patient who predicts rain accurately everytime' by a severe attack of insomnia about twenty four to twenty-eight hours before the storm. Many people and animals exhibit this mysterious excitability and irritability as storms approach remarks the J.A.M.A. Some believe that a real tissue swelling occurs as outside pressures are reduced and the cells imbibe free water from their surrounding medium (much as does a sponge). Many people have a severe headache, which is relieved as soon as the pressure begins to rise again. Some others with sclerotic changes exhibit a distinct tendency to convulsions and unconsciousness during periods of rapidly declining pressure.

### POSTGRADUATE SCHOLARSHIPS

The New York Postgraduate Medical School Columbia University has a scholarship fund which is available for qualified graduates in medicine who wish to take postgraduate courses at this school.

For further information and application forms address the Director, New York Postgraduate Medical School, 303 East 20th Street, New York City.

The suppression of Jewish doctors in Germany has resulted in 'a definite lack of physicians according to reports to the J.A.M.A.

# THE PROGNOSIS OF INSURED NEUROTICS

## A Study of 1,000 Disability Insurance Claims

PETER G. DENKER, M.D., New York City

(Assistant Visiting Neurologist, Bellevue Hospital)

IT is probably true that "psychoneurosis" is the most frequently made diagnosis in medical practice. Culpén and Smith,<sup>1</sup> in a routine examination, found that about 50 per cent of factory workers, and 70 per cent of students had neurotic symptoms, 16 to 20 per cent of these symptoms being of fairly severe degree. Cassidy,<sup>2</sup> in his consulting cardiologic practice, notes that 29½ per cent of persons seen by him are neurotic and show no evidence of organic heart disease, and this estimate is even exceeded by Houston,<sup>3</sup> who believes that at least half of these patients presenting themselves as suffering from heart disease are cardiac neurotics. Of 2,000 consecutive ambulatory cases in the Boston dispensaries, 45 per cent were psychoneurotic<sup>4</sup> and Lockhart, quoted by Gillespie,<sup>5</sup> would have us believe that "as much as 60 per cent of the time lost through sickness in certain industries is lost through psychoneurotic illness of some kind or another." The neurosis is not only frequent but is often prolonged in its course. Thus, Halliday,<sup>6</sup> as Regional Medical Officer for Scotland under the Insurance Acts, found that one-third of 1,000 patients referred to him due to prolonged incapacity, and supposed to be suffering from organic disease, were in fact ill from neurosis. All these patients were rechecked by specialists and an independent observer. Similarly, Hoare,<sup>7</sup> in his analysis of the disability claims of the Penn Mutual Life Insurance Company found that next to diseases of the heart, the most frequent cause of disability was disorder of the nervous system, constituting 16 per cent of their claimants. It is interesting to note that the claim of longest duration

(twelve years) in his series was due to a neurosis resulting from a fracture of the skull. Furthermore, in an analysis made according to duration of illness, the cases due to nervous system disease were found to constitute 40 per cent of the total number of claims, in this respect leading the field by a large margin. The economic loss to the individual and to industry due to this impairment is, therefore, obviously severe.

### Outline of Study

It was thought that a follow-up study of 1,000 consecutive disability claims due to psychoneurosis might add some enlightenment to this complex problem. These claimants were all insured in the Equitable Life Assurance Society of the United States, and if totally disabled received varying amounts of money in monthly payments depending on the amount of insurance carried. Most of these policies were issued between the years 1915 and 1930, the inception of their disability occurring from one to twenty years after issue. The diagnosis in all instances was made by a physician and often corroborated by a nerve specialist or psychiatric hospital, and in the New York area most of the cases were personally examined by the writer. Total disability was only recognized after the insured had been ill for at least three months and to an extent that would prevent him from engaging in any occupation for remuneration or profit. The milder or more transient neurotic disturbances are, therefore, automatically excluded from this study. Lastly, the follow-up study was made at least five years and, in many cases, ten to fifteen years

*This paper was read before the Association of Life Insurance Medical Directors on October 29, 1937*

after disability had commenced results being obtained by correspondence with the insured or his physician, examination by the Society's examiners, personal interviews or inspection reports. Due to the co-operation of these various informants, 100 per cent of the cases were traced and brought up to date.

### Great Frequency of Error in Diagnosis

The great risk of error in too glibly labeling a patient a neurotic was apparent early in the study. On following the cases it was found that 293, or 29.3 per cent of the total 1,000 cases had been erroneously diagnosed as "psychoneurosis," the true nature of the illness manifesting itself in most cases within one year, as some organic disorder. There were 62 deaths in this group of 293 cases, an unusually high percentage. It is interesting to note that in a follow up study of 100 patients diagnosed as "neurosis," Comroe<sup>8</sup> found that 24 per cent showed definite evidence of organic disease within an average period of eight months, never after two years, figures closely approximating ours. In most instances rechecking of the original hospital records of these patients revealed that symptoms suggesting the organic disease were present during the original admission. He likewise experienced a high mortality rate, 7 of the 24 cases dying within two years. A tabulation of these 293 cases erroneously diagnosed neurosis follows.

TABLE 1.—END RESULTS OF CASES ERRONEOUSLY DIAGNOSED NEUROSIS

|  |                 |
|--|-----------------|
| 1. Psychosis (manic-depressive schizophrenia, involutional melancholia, general paresis, etc. (suicides, 20) | 149             |
| 2. Cerebral arteriosclerosis and hemorrhage  | 21              |
| 3. Other organic brain disease   | 25              |
| 4. Pulmonary tuberculosis or lung abscess  | 17              |
| 5. Organic cardiac disease   | 13              |
| 6. Hypertension and nephritis  | 14              |
| 7. Cancers   | 7               |
| 8. Cholecystitis or cirrhosis of liver   | 8               |
| 9. Duodenal ulcer  | 4               |
| 10. Chronic arthritis  | 7               |
| 11. Miscellaneous  | 28              |
|  | <hr/> 293 cases |

It cannot, therefore, be too frequently emphasized that the pitfalls in diagnosing a "neurosis" are deep and that the diagnosis should only be made after a most meticulous exclusion of organic disease has been carried out. It would probably be wise not to insure an individual for at least six months to one year after recovery from a neurosis.

It might be appropriate at this point to mention the extreme difficulty which is occasionally encountered in differentiating between the neurotic and the malingerer. The malingerer realizes he is not ill and consciously simulates his symptoms, whereas, the neurotic is genuinely convinced that he is sick and is usually unaware of the emotional factors related to his difficulties or the purpose that his symptoms are serving. The inconsistencies in history and examination, as well as the frequent exaggeration of symptoms or signs by the malingerer, help in diagnosis. To make matters more difficult the two conditions may coexist. Foster Kennedy<sup>9</sup> has aptly described this state, "hysteria and malingering are often dovetailed and come together in one mind, and many symptoms begun as malingering end as hysteria by suggestion. In the great majority of cases, one cannot tell easily what is virtue and what is vice. Just as few of us know if we are all good or all evil, we are in truth neither black nor white, just gray."

The remainder of this paper will concern itself with an analysis of the 707 true neurotics in this series.

### Age

The age of onset encountered in the study varied widely from 19 to 59 years, the average age being 37.2 years. This is in contrast to the slightly higher age average of the erroneously diagnosed group in which 40.8 years was obtained. The chances of error in diagnosis is, therefore, somewhat greater at the higher ages. It would seem that middle age in the male produces the greatest neuroses, possibly because his responsibilities are greatest and his career made or broken at this period. In the female this age inci-

TABLE 2—AGE AT ONSET OF DISABILITY

| AGE AT ONSET | MALE | FEMALE | BOTH SEXES |
|--------------|------|--------|------------|
| -19          | 2    |        | 2          |
| 20-24        | 17   | 38     | 55         |
| 25-29        | 43   | 61     | 104        |
| 30-34        | 64   | 82     | 146        |
| 35-39        | 67   | 55     | 122        |
| 40-44        | 75   | 33     | 108        |
| 45-49        | 57   | 30     | 87         |
| 50-54        | 39   | 19     | 58         |
| 55-59        | 20   | 5      | 25         |
| Total        | 384  | 323    | 707        |

dence is somewhat lower As Halliday<sup>6</sup> puts it "he tends to look before and after and pine for what is not, and by means of an illness escapes the responsibilities of an immediate or future environment hard to contemplate steadily" Burns expressed the mood when he wrote, "But, oh, I backward cast my ee on prospects drear,  
An' forward tho' I canna see, I guess and fear "

### Sex

Of the 707 cases, 384 were males and 323 females Forty-five per cent of these claimants were, therefore, females, as contrasted to the fact that only 12-14 per cent of the insurance policies during these years were held by women Neuroses were, therefore, 3 to 4 times as frequent among females as male insureds, which corresponds with the clinical frequency of female neurotics Of 100 neurotics studied by Bennet and Semrad,<sup>10</sup> 73 per cent were females and 27 per cent males, and 61 per cent of Luff and Garrod's<sup>11</sup> series were females

### Occupation

Occupationally claimants might be classified roughly as follows

TABLE 3—OCCUPATION OF DISABILITY CLAIMANTS

|                      |     |
|----------------------|-----|
| Clerical workers     | 185 |
| Executives           | 170 |
| Teachers             | 132 |
| Merchants            | 88  |
| Professional workers | 54  |
| Farmers              | 33  |
| Nurses               | 23  |
| Students             | 13  |
| Manual workers       | 7   |
| Housewives           | 2   |
|                      | 707 |

No definite conclusions can be drawn, but the high incidence among clerical workers, executives, teachers, and professional people contrasts forcefully with the greatly diminished number of manual workers and housewives On looking over the case histories, one was often struck by the monotonous existence of the occupational misfit, the clash of temperament and intelligence, etc "Blessed is he who has found his work, let him ask no other blessedness," wrote Carlyle, and Huddleson<sup>12</sup> has worded the problem well "whatever his personal and family histories have been, any individual may find himself in a situation that tends to become progressively more unbearable and so predisposes to psychoneurotic conduct. A man working at tasks beyond his intellectual or physical capacity, or his emotional endurance, and harassed by obligations to carry on exhausting work without being able, from whatever ultimate maladjustments, to derive satisfaction from his work, this man is becoming predisposed toward a neurosis Bare failure is intolerable, but failure camouflaged and compensated for by an illness that brings attention, sympathy, rest, and often an indemnity or wages without work is far from intolerable "

### Family or Past History of Mental Disease

Though a history of familial mental taint is frequently obtained in the private neurotic patient, such a history was only rarely given in this series Thus, there were only 45 individuals of the 707 who presented a history of nervous or mental disease in either themselves or their family, an incidence of about 5 per cent. Yaskin<sup>13</sup> in a review of 100 psychoneurotics obtained a positive family history of neuropathy in 60 per cent This discrepancy is probably explained by the absence of a special question on the insurance application as to mental disease in the family, as well as by the fact that the average insurance examiner is not neurologically minded Lastly, lack of candor

on the part of the applicant plays an important role

### Life Expectancy

A thorough search of the literature revealed no accurate mortality study of people who have suffered from a neurosis. The following table expresses our experience in this series of 707 cases

TABLE 4—MORTALITY STUDY OF NEUROTICS

| ATTAINED AGE | ACTUAL DEATHS | MALES<br>EXPECTED DEATHS |                   | MORTALITY RATIOS |                   |
|--------------|---------------|--------------------------|-------------------|------------------|-------------------|
|              |               | U. S. Table              | E. L. A. S. Table | U. S. Table      | E. L. A. S. Table |
| -39          | 4             | 5 30                     | 3 42              | 75%              | 117%              |
| 40-49        | 5             | 9 62                     | 7 13              | 63               | 70                |
| 50-59        | 8             | 12 08                    | 10 06             | 57               | 82                |
| 60           | 1             | 3 70                     | 3 65              |                  |                   |
|              | 18            | 30 76                    | 25 16             | 56%              | 72%               |

| FEMALES |   |       |       |     |     |
|---------|---|-------|-------|-----|-----|
| -39     |   | 6 24  | 4 62  |     |     |
| 40-49   | 2 | 4 48  | 4 28  |     |     |
| 50-59   | 1 | 3 83  | 4 62  |     |     |
| 60      | 1 | 71    | 87    |     |     |
|         | 4 | 15 28 | 14 39 | 26% | 28% |

This study was made from the inception of the disability to the date as of which we were last able to trace them. There was a minimum of at least five exposure years for each case, with a total of 2,981 exposure years for the 384 male cases and 2,526 years for the 323 female lives. The average number of years of follow up was, therefore, 7.6 years. The expected deaths were calculated by three mortality tables: (1) a table representing the Society's own experience between 1928 and 1932 on standard insurance policies in force more than ten years (this was applied to both the male and female experience), (2) the U. S. White Males Table representing the experience during the period 1928-1931 of the total white male population of the continental U. S., and (3) the U. S. White Females Table corresponding to the Males Table. Each of these two tables was applied to the

corresponding sex in this present study

There was a total of 18 male and 4 female deaths in the entire series, death being due to various causes. The expected number of male deaths was 30.76 deaths according to the U. S. Table and 25.16 deaths in the Equitable Life Assurance experience, giving a favorable mortality ratio for the entire male group of 56 per cent and 72 per cent, respectively. In the female group only 4 deaths were experienced, giving a mortality ratio of 27 per cent. It is, therefore, evident that psychoneurotics have a life expectancy which is better than normal. This is probably due to the excessive care and pampering they usually undergo, their escape from the winter rigors to southern climates, long vacations, frequent rest periods, etc. There would thus seem to be statistical proof for the opinion that neurotics are more likely to wear out their families and friends rather than themselves.

A word as to the frequency of suicide among neurotics. Though the fear of committing suicide is a frequent symptom in patients suffering from anxiety states, and hysterics often threaten to do so, the risk of a person committing suicide who is suffering from a true neurosis is very small, and the old saying that these patients are too fond of themselves for this to be a serious risk is a true one. In the 22 deaths in this series there were 3 suicides. Jamieson<sup>14</sup> in a study of 100 suicidal deaths found only 4 in psychoneurotics, these were in the acute phase, with morbid fears, depression, and various hypochondriacal symptoms resembling a mixed manic-depressive reaction. It is interesting to note that over two-thirds of his 100 cases occurred in the course of a psychosis of the manic-depressive type. T. A. Ross,<sup>15</sup> in an experience of over 1,000 cases of neurosis, encountered only 7 suicides, once again the accuracy of diagnosis must, therefore, be stressed. The psychoneurotic should be carefully differentiated from the psychotic. The small suicide hazard in the neurotic is in marked contrast to the much greater risk of this tragedy in the psychotic. Strecker



TABLE 5—MONTHLY DISABILITY INCOME GROUP

| DURATION OF DISABILITY | ALL CLAIMS<br>Percentage | WAIVER ONLY<br>Percentage | LESS THAN \$50<br>Percentage | \$50-\$99<br>Percentage | \$100-\$199<br>Percentage | \$200<br>Percentage |
|------------------------|--------------------------|---------------------------|------------------------------|-------------------------|---------------------------|---------------------|
| Less than 1 year       | 45.4                     | 31.6                      | 47.4                         | 43.4                    | 45.8                      | 41.9                |
| 1 year or more         | 54.6                     | 68.4                      | 52.6                         | 56.6                    | 54.2                      | 58.1                |
| 2 years or more        | 27.4                     | 36.8                      | 25.0                         | 30.2                    | 23.6                      | 35.6                |
| 3 years or more        | 18.3                     | 26.3                      | 16.8                         | 18.7                    | 16.7                      | 25.8                |
| 4 years or more        | 14.0                     | 15.8                      | 12.2                         | 14.8                    | 12.5                      | 24.2                |
| 5 years or more        | 10.3                     | 15.8                      | 8.2                          | 11.0                    | 8.3                       | 22.6                |

and Palmer<sup>16</sup> have clearly differentiated the two, "a psychoneurosis is essentially different from a psychosis. The psychotic is profoundly shaken in his whole personality and sometimes disintegrated, there is a deep cleft between self and environment, and reality for him is disturbed, distorted, and even abolished. In the neurotic there is only a partial personality altering and environmental contacts remain real and relatively undisturbed. Meyer sees the psychoneurosis as part reactions, halfway places between normal and psychotic, maladaptions to be sure, but, nevertheless, compromises that recognize and concede the claims of reality. Finally from the standpoint of insight, the capacity to 'stand off' and 'look in,' survey and judge, even if not understand, here the psychoneurotic overwhelmingly demonstrates his freedom from the psychosis."

### Duration of Neurosis

Of the total of 707 cases

- 45.4 per cent terminated within 1 year of onset
- 27.2 per cent terminated during 2nd year
- 9.1 per cent terminated during 3rd year
- 4.3 per cent terminated during 4th year
- 3.7 per cent terminated during 5th year
- 10.3 per cent were still disabled 5 years after onset.

Approximately three-fourths of all cases, therefore, recover within two years of the onset of disability and a little less than

half within the first year. In the follow-up series of Luff and Garrod,<sup>11</sup> three years after the patients had been discharged from the clinic, 55 per cent were found to be in good health, the results being more or less identical for all therapeutic methods used, including analysis. In our series, 20 cases had been treated by lengthy analysis with approximately the same degree of success as the remainder of the cases treated according to various other procedures, making one doubt the peculiar therapeutic efficacy of this procedure. Yaskin<sup>13</sup> in his series of 100 neurotics, found that 41 recovered, 41 improved, and 18 had not been benefited by treatment in hospital or clinic. He likewise felt that for most of the patients, suggestion, encouragement, medication, and partial analysis of the precipitating conflict was sufficient.

It was thought interesting to attempt to ascertain if any relationship existed between the amount of disability income and the duration of the illness. The table above shows the persistency of these claims over a five-year period from the initial date of the disability, expressed on the basis of percentage of the total claims in each category.

It can readily be seen that in the higher disability income brackets the duration of the claim is likely to be longer. Thus, whereas only 10.3 per cent of all claims lasted five years or more, in the disability income group receiving \$200 or more per month, 22.6 per cent of the cases lasted this length of time. Furthermore, it would seem that after the third year in this higher income group the percentage remains almost constant, so that it is fair to say that neurotics receiving \$200 or

more per month, who have been ill for three years, practically never get well. It would seem that the monthly disability check eliminates the incentive to get out and fight life's struggles, and, in addition, it acts as a constant reminder to the highly suggestible, mentally ill patient that he is disabled, and an invalid, and recognized as such by the outside world. Instead of helping to rehabilitate the neurotic, we are doing the worst thing possible for his mental health, constantly impressing upon him that society looks upon him as useless and unable to carry on. How much wiser we would be, to pay these claims by some form of lump-sum settlement at the end of the first year of disability or sooner.

### Lump-Sum Settlements

In the last few years, much has been written pro and con about 'lump-sum settlements.' In Denmark, compensation is paid in a lump sum at an early stage of the incapacity and 93.6 per cent of the injured recover from what in this country would be called a traumatic neurosis. On the other hand, the sick man in Germany is entitled to a monthly pension and only 9.3 per cent recover from the same disease.<sup>17</sup> Jolly<sup>18</sup> has had a similar experience with industrial hysterics, finding the percentage of cures high when lump-sum settlement is speedily made, whereas it is low where the individual draws weekly compensation. Foster Kennedy<sup>9</sup> quotes Dr. Lewy, who is chief medical examiner for the compensation commission of the State of New York as saying that he has 'never known of a single case from my very large material, which was ever disposed of, unless the individual received a monetary remuneration to his own satisfaction. Norcross,<sup>19</sup> on the other hand in a follow up study of compromise agreements, settled by lump sum in New York State, found the system used did not produce successful results, in that, in most cases, the claimant's physical health or mental attitude was not improved, nor did it stimulate him to find work or aid in the conservative expenditure of his compensation

money. Marked improvement resulted from the settlement in only 17 of 64 cases. He attributes most of the failures to unnecessary delay in the compensation process, extended litigation and unwise handling of these cases by the insurance carrier or their representatives. "The group which understands this type of man best, namely the State Compensation Medical Staff, often makes recommendations which are not followed. He recommends that the interval between the onset of neurosis and the settlement should be shortened, investigations should be speeded up, and neurotic claimants should not be given copies of their medical reports or hear medical testimony which might cause them further anxiety or worry. They should not be advised that it is legally possible to reopen their cases at a later date if their conditions change for the worse, since such knowledge is harmful to the neurotic patient. 'Work of any kind is the best therapy,' and better co-operation from the insurance companies would return more claimants to work much sooner.

The medical literature is full of warnings about the futility of closing neurotic cases a long time after the accident. Though writers differ as to the manner in which claims should be settled, all agree they should be settled promptly and be rather small, and that prolonged litigation and appeals are the worst things that can happen to a psychoneurotic. All the emphasis is on *early* closure. Huddleson<sup>12</sup> writes 'If the final settlement is delayed for a number of months, the neurosis is not immediately alleviated by the indemnity and may become quite unaffected.' Sir John Collie<sup>20</sup> refers to the protracted legal delays relevantly by saying, 'In cases which are contested the *'Law's Delay'* accounts for a great deal of prolonged disability, and the development meantime of functional disease. The close questioning, often repeated, as to the exact details of the accident and his feelings by both lawyers and doctors and the everlasting inquiries of well meaning but injudicious friends and acquaintances, all help to rivet the man's atten-

# EMPLOYMENT STATUS FOLLOWING SETTLEMENT

Each figure represents 10 men

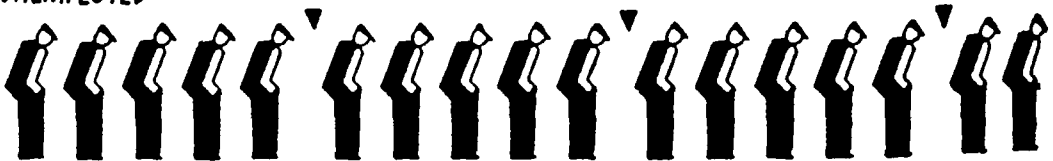
## EMPLOYED



## GOVERNMENT MADE JOBS



## UNEMPLOYED



## DIED



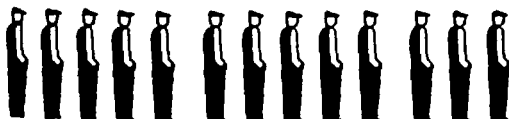
# HEALTH OF NEVROTIC MEN FOLLOWING SETTLEMENT

Each figure represents one man

EXCELLENT



GOOD



FAIR



POOR



VERY POOR



DEAD



From Carl Norcross Vocational Rehabilitation & Work  
men's Compensation, Rehabilitation Clinic New York, 1938

tions on his internal anatomy Too often his abnormal mental condition will remain until the dispute arising from the accident is settled, and generally, so far as recovery is concerned, it matters less than one would expect whether the claimant wins or loses" An educational campaign whereby the legal profession, insurance adjustors, and legislative arbitrators and physicians could grasp the conception of neurosis, and learn to realize the advantages the neurotic obtains by being ill would go a long way toward intelligent handling of these cases

In this series, 15 claims were settled by compromise and lump-sum payment, usually this included the repurchase of the disability clause by the Society In 5 of the 15 cases, no clear-cut opinion could be rendered as to whether or not benefit had been obtained by this form of procedure Seven cases, however, were followed by distinctly favorable results, the patients recovering rapidly and remaining in good health for a long period of years In the 3 remaining cases, no beneficial effect was obtained, the disabling neurotic symptoms persisting for long periods following settlement. An attempt was made to analyze the reasons for the success in some cases and failure in others, and the following table lists the results in those cases where a definite opinion could be offered

TABLE 6

| CASES SUCCESSFULLY TERMINATED BY LUMP SUM   |  |                                      |
|---|--|--------------------------------------|
| AGE AT ONSET OF DISEASE                     | DURATION OF DISABILITY BEFORE SETTLEMENT | AMOUNT OF DISABILITY INCOME RECEIVED |
|   | No of Years                              | Monthly                              |
| 28  | 5  | \$ 50                                |
| 33  | 1  | \$100                                |
| 29  | 2  | \$500                                |
| 31  | 1½                                       | \$ 50                                |
| 33  | 1½                                       | \$400                                |
| 43  | 1½                                       | \$840                                |
| 37  | 6 months                                 | \$250                                |
| CASES UNSUCCESSFULLY TERMINATED BY LUMP SUM |  |                                      |
|   |  |                                      |
| 44  | 3  | \$100                                |
| 48  | 4½                                       | \$ 65                                |
| 42  | 3  | \$250                                |

It is clearly seen from the above tabulation, that (1) cases in the younger age groups (roughly under 40) are more favorable for lump-sum settlements, and (2) the shorter the duration of disability before settlement is made, the better the outlook of success It would also seem from the above that the amount of disability income is not as important a factor as are the two previously mentioned A claimant receiving \$840 a month, who had been ill for one and one half years, was promptly cleared up of mental symptoms by settlement of the case in one sum, and was soon back at work functioning normally Experiences of this type make one feel that the situation with the disabled neurotic is far from hopeless, and that intelligent handling of this form of disability could go a great way toward minimizing the severity of the problem

### Summary

1 A follow-up study of 1,000 consecutive disability claims for psychoneurosis was made, at least five years after disability had commenced

2 Almost 30 per cent were found to have been incorrectly diagnosed, the true nature of the illness manifesting itself within one year

3 A mortality study of the series shows that neurotics have a distinctly greater life expectancy than normal The rarity of suicide in this group is stressed

4 The duration of neurosis in relation to disability income, type of therapy, age, sex, and other factors is discussed

5 The cases settled by lump-sum compromise are analyzed, and this method of terminating neurotic claims is reviewed in the light of our experience as well as others

### Bibliography

- 1 Culpen, M, and Smith, M Medical Research Council Industrial Health Research Board, Report No 61, London, 1930
- 2 Cassidy Brit. M J, 1 45 (1934)
- 3 Houston South M J 29 404
- 4 Monthly Bull Mass. Soc for Mental Hygiene 1930, IX, No 2
- 5 Gillespie, R. D Lancet, 1 1 (1933)
- 6 Halliday J L Brit M J Suppl, 1 85 (1935)
- 7 Hoare, D W Proceedings of Assn of Life Ins. Med. Directors, 22 75 (1935)

8. Comroe, B. I. *J Nerv & Men. Dis.* 83 679 (1938)
9. Kennedy Foster. *Bull. N Y Acad. of Med.* 6 3 (1930)
10. Bennett, A. E. and Semrad E. V. *Nebraska State Med. J.*, 31 90 (1936)
11. Luff M. C. and Garrod M. *Brit. M J* 2 54 (1925)
12. Huddleson, J. H. *Accidents Neuroses and Compensation*, The Williams and Wilkins Co. Baltimore 1932
13. Yashin: *Amer J Psych.* 93: 107 (1936)
14. Jamieson, G. R. *Arch Neur & Psych* 36 1 (1936)

15. Ross, T. A. *An Enquiry into Prognosis in the Neuroses* Cambridge Univ Press 1936
16. Strecker and Palmer. *A text book of Psychiatry for General Practitioners* Christian II A Oxford Univ Press, N Y 1937
17. Neuhaus G. *Nebraska State Med. J* 19 248 (1934)
18. Jolly P. *Arch. für Psych.* 89 589 (1930)
19. Norcross Carl. *Vocational Rehabilitation & Workmen's Compensation* Rehabilitation Clinic N Y 1935
20. Collie J. *Fraud in Medico-legal Practice* Arnold London, 1932.

## SOCIALIZED MEDICINE IS BAD BUSINESS TOO

A strong letter has been sent by the Bronx Chamber of Commerce to the two U S Senators from New York State and to the three Bronx members of Congress expressing opposition to certain phases of the Administration's Health Program. It is based on sound reasons that would appeal to all business bodies and runs thus

"While thoroughly sympathetic with any well fare measures that may be promulgated in the interest of the general health of our community it is not difficult to realize that under present economic conditions any attempt on the part of the Federal government to launch a compulsory health insurance program estimated to cost \$850 000 000 per year for ten years, with an ultimate cost of approximately close to \$2 000 000 000 would constitute a boomerang so far as general conditions are concerned. It certainly would increase both direct and indirect taxes which are already bordering on being unbearable, and it would likewise lead to greater invasion of private enterprise by the Government.

In expressing our position, we should like to

point out that the medical fraternities in various States including this one are working out plans for professional attention similar to that now available under the hospitalization plan which costs three cents a day which would be supplemented by medical care for an additional two or three cents a day. Under such an arrangement all persons with a stated income would be able to insure themselves so as to be free from worry of fees for doctors, laboratory examination, hospital charges and other considerations which go to make up a health insurance program.

Those in the lower brackets of income would of course have to be taken care of through the regular public hospital facilities. It would seem common sense for the government to encourage this type of social security in which everyone who can afford to will pay rather than embark upon further tax burdening projects.

It is earnestly requested that you be guided in your deliberations by the facts presented herein and which we believe will be accepted as sound and desirable for the best interest of the greatest number of our people."

## A TIP FROM THE SIDELINES

They say the looker-on sees most of the game, and some of the comments by press writers on socialized medicine reveal how it looks to the man on the fence." Thus a writer in the *New York Daily News* after summarizing the points for and against, gives a tip to the medical profession. He says

What all the doctors had better bear heavily in mind, we think, is this. That if they don't get together and agree to support one or more forms of doctor-controlled collectivized medicine, the politicians may take the whole play away from them

The President is expected to lay a huge national health scheme before the coming Congress. It is a fact that too many Americans get too little of the medical service that is now available or could be made available, and that more and more people are coming to demand adequate medical care as a right.

It looks as if the only choice left to the doctors is whether to run some expanded public health system intelligently and expertly or to be themselves run by a lot of politicians and social service workers trying clumsily and ignorantly to make an expanded public health system work

# HEART DISEASE AND PREGNANCY

R CARMICHAEL TILGHMAN, M D

(Assistant Visiting Physician, Medical Consultant to the Division of Obstetrics, The Johns Hopkins Hospital, Baltimore, Maryland)

THE LATE Sir James Mackenzie, the great Scotch cardiologist and physician, who was keenly interested in the behavior of the heart during gestation, opened his book with these words "There are few subjects in medicine of which an accurate knowledge is more urgently required than that of a woman's fitness for childbearing." It is at once apparent that the physician, in expressing his opinion on this point, must perforce have an exact knowledge of the status of heart, for the burdens of pregnancy on the circulation are great ones. Only too often does the extra work resulting from the pregnancy amount to more than the heart can do, and the final outcome is disastrous.

The problem of handling the pregnant cardiac patient is not an easy one. It is not one to be decided by the obstetrician alone or by the internist alone. The best interests of the patient are served by the combined effort of the two. At The Johns Hopkins Hospital an attempt has been made to solve the medical difficulties arising in the course of pregnancy by appointing a medical consultant to the department of obstetrics. One of his duties is to visit the obstetrical outpatient department on a regular day for the specific purpose of discussing with the obstetricians the management of their medically complicated cases. In this way the problem can be threshed out *in situ*, and the plan of the follow-up care of the patient be determined. The nature of the complication is the deciding factor governing the frequency of the return visits. Some patients are seen weekly, while a monthly visit may suffice for the care of others. If the condition is grave or puzzling, the

patient is admitted to the obstetrical wards for further medical and obstetrical study.

An opportunity, therefore, has been afforded for close personal observation of a number of cardiac patients registered in the obstetrical dispensary of The Johns Hopkins Hospital. The content of this paper has been based to a large extent upon the study of this group of patients.

Although some women present themselves to their physicians for the deliberate purpose of obtaining an estimate of their physical fitness to bear a child, this occurrence is comparatively an infrequent one. This is especially true of the dispensary type of patient. The vast majority of complicated cases are seen by the doctor after the pregnancy has become a reality and in many instances after two, three, four, or more months. By this time the physiologic influences of the pregnancy itself upon the general condition of the individual and especially upon the circulation have probably made themselves manifest, and the diagnosis of organic heart disease as well as the plan of care are frequently rendered very difficult.

If a pregnant patient is suspected of having a cardiac abnormality it is obviously desirable and indeed necessary to establish this fact as early as possible. In making a definite diagnosis, the clinician must take cognizance of the physiologic changes *per se* occurring with pregnancy, lest he be led into serious error. What, then, are some of the changes influencing the cardiac status that one observes in pregnant women?

One feature that occurs with great regularity during pregnancy is the simple

gain in body weight. Even laymen are perfectly familiar with the puffing and blowing exhibited by the fat woman when she exerts herself. The addition of some twenty pounds or more during pregnancy may often be an adequate explanation of the dyspnea and fatigability complained of by certain obstetrical patients. One must not be too hasty in accepting a history of exertional dyspnea as an indication of circulatory insufficiency.

It must be the rare case in which the diaphragm is not elevated due to upward pressure exerted by the enlarged uterus. In determining the size and position of the heart, whether by percussion or by teleo-roentgenogram measurement, it is of the utmost importance to know the extent of the abdominal distention before deciding that the heart is enlarged. Moreover, the effect of the upward pressure of the elevated diaphragm does more than cause a simple lateral displacement of the heart, the heart is also twisted and rotated, a feature of importance that will be discussed later.

Moreover, the enlarged uterus does more than raise the diaphragm. There is the direct pressure exerted upon the iliac and pelvic vessels. In the normal non-pregnant subject, the venous pressures in the arm and in the leg are approximately identical. If one compares the venous pressure readings taken in the femoral veins with the readings in the antecubital veins in the normal pregnant woman, one will find the arm vein pressure to be quite normal whereas that in the femoral vein is usually 100 to 200 mm. of water higher than in the arm, i.e., from two to three times normal.

In many patients the result of the increased venous pressure in the legs, with the stasis in the pelvis (the latter on a purely mechanical basis) is the production of edema of the feet and ankles. Again, then, the observation of dependent edema does not suffice to establish this occurrence as having pathologic significance.

Aside from these purely mechanical effects of the gravid uterus, there are demands made upon the circulation and the

normal heart. The circulatory adjustment during pregnancy must compensate for the following:

1 Pulse rate—this is usually elevated some ten to twenty beats per minute.

2 Arterial blood pressure—there is an increase in the width of the pulse pressure, so that the pulse feels more collapsing, and this change is due to a decrease in the diastolic level to an extent slightly more than the decline in the systolic pressure.

3 Circulation rate—this is variable during the different stages of the pregnancy, but on the whole there is a slight speeding up of the circulation.

4 Vital capacity—there is no significant change.

5 Oxygen absorption—the total oxygen absorbed by the maternal lungs is increased, usually nearly 15 to 20 per cent above the nonpregnant level.

6 Total blood volume—this is increased in some cases as much as 40 per cent.

7 Cardiac output, i.e., the minute volume output of the heart—this increases frequently 50 per cent above normal from the fourth to the eighth month and during the last month may return to the normal level or it may remain elevated for four weeks after delivery.

From the foregoing then it is apparent that one may expect several physiologic physical signs to appear during the course of the pregnancy, which, without adequate knowledge of the normal pregnancy changes, would lend confusion in making a diagnosis of organic heart disease. Perhaps the most important of these physiologic physical signs is the occurrence of a systolic murmur. Various observers have estimated that it is present in from 10 per cent to 75 per cent of all pregnant women, even in those with normal hearts. This systolic murmur is most frequently heard over the pulmonic region, and the explanation for its presence depends upon a consideration of all the physiologic circulatory changes above enumerated. The distortion of the pulmonary conus, the venous congestion re-



sulting from elevation of the diaphragm, the slight anemia not uncommonly observed in pregnancy, the increased circulation time, etc., are adequate reasons for the appearance of such a murmur. Along the same line of reasoning one may readily explain the accentuation of the second pulmonic sound that is demonstrable in a very high percentage of normal pregnant women. A third physiologic physical sign, and sometimes the cause of distressing symptoms, is the occurrence of extra-systoles or premature beats. These are especially common in the later months of pregnancy and unless they are associated with definite signs of organic heart disease, have no clinical significance. The probable explanation of the extra-systoles is the distortion and rotation of the heart and the consequent production of foci of irritability outside the sino-auricular node.

After one has examined the heart of a pregnant woman and taken full account of all the physiologic phenomena occurring in every pregnancy, one is left with the difficult task of stating whether or not there is organic cardiac disease.

Proceeding now to a consideration of true heart disease in pregnancy, one is, of course, at the outset, interested in knowing the incidence and significance of heart disease among pregnant women. It is fair to state that at least 1 per cent of all pregnant women have some form of heart disease. As a cause of maternal death, cardiac disease follows in importance only puerperal infection and eclampsia. From the figures reported in the literature, maternal deaths attributable to heart disease would be between 5 and 8 per cent, or since some 18,000 women die yearly in the U S A during pregnancy or the puerperium, this would mean about 1,000 deaths annually from heart disease complicated by pregnancy. Heart disease with a superimposed pregnancy is a formidable complication.

During the childbearing age one has relatively few etiologic considerations in heart disease. The patient is too young for arteriosclerotic heart disease.

Hypertensive and syphilitic heart disease are not commonly encountered. A patient with subacute bacterial endocarditis rarely becomes pregnant. Various cardiac arrhythmias are observed during pregnancy, but their occurrence is so infrequent that space in this paper will not permit a discussion of their management. One is left then with rheumatic heart disease, congenital heart disease, and heart disease resulting from thyrotoxicosis. By far the most important of these is rheumatic heart disease, which accounts for 90 to 95 per cent of the lesions seen during pregnancy. The ensuing remarks are therefore most pertinent to the rheumatic form of cardiac disease. The valve lesion per se is of less importance than the functional ability of the myocardium, and no analysis of the relative frequency or performance of the heart with the various valve lesions will be undertaken in this paper.

The criteria used in establishing a diagnosis of heart disease in the nonpregnant are likewise applied to the pregnant woman. There are certain physical signs pathognomonic of organic heart disease, e g, diastolic murmurs, rough and transmitted systolic murmur, unmistakable cardiac enlargement, cardiac arrhythmia, other than extra-systoles, and unmistakable signs or history of cardiac failure. Moreover, a history of acute rheumatic fever or chorea or a history suspicious of congenital cardiac state are most useful.

When, on the basis of these criteria, one is able to establish a diagnosis of heart disease, one has fulfilled only part of his duty. The issue then resolves itself into estimating the ability of the heart to carry on during pregnancy and delivery, and a decision of the best way to manage the delivery. It is here that it becomes most essential to have the opinion both of the obstetrician and of the internist. Obviously the whole scheme of the medical man might be undone by the discovery later of a borderline or a contracted pelvis, from which one would naturally expect a lengthy and difficult labor. It

is at this stage that the debate *in situ* of the medical consultant and the obstetrician is most fruitful in outlining the best plan of treatment of the pregnant cardiac patient.

Everyone interested in the problem of heart disease and pregnancy has advanced beyond the point of diagnosis of the type of heart disease by making a classification of the functional ability of the diseased heart. Useful as these classifications may be, there is none flexible enough to fit every case. Every pregnant cardiac patient is an entity that must be considered as such, and each patient warrants a consideration of the social and economic factors of her case, as well as the pertinent medical and obstetrical data. Whether the cardiac patient can enjoy the luxury of a servant or whether she herself be the servant in the house is too obvious a point to require more than mere mention.

For purposes of discussion, however one does have to subdivide the cardiac cases in respect to their prognosis in pregnancy. The classification advanced by the New York Heart Association is very useful in keeping clearly in mind the functional state of the myocardium.

Into *Class I* are grouped the patients with organic heart disease able to carry on ordinary physical activity without discomfort. Many times patients in this group will give no history of rheumatic fever, and indeed the fact that they have a cardiac lesion may be brought to their attention for the first time with the physical examination during pregnancy. In other words this type of patient may have been so well compensated that she had no reason to consult a physician. For this patient the ordinary day's work has caused no symptoms, no undue fatigue, palpitation, dyspnea, and so on. On examination one finds the characteristic signs of well advanced mitral stenosis or combined mitral stenosis and aortic insufficiency, but rarely any real cardiac enlargement. Such a patient does not show the physical signs of congestive heart failure.

Patients in *Class I* rarely cause any concern during pregnancy. If the pelvic measurements are normal, a patient in *Class I* may be expected to go through the course of normal spontaneous delivery just as a noncardiac patient would do. These patients, whether primipara or multipara, should be admitted to the hospital several days or a week before the expected date of delivery. If the second stage of labor threatens to be lengthy, it is usually desirable to shorten it by the application of forceps.

The *Class II* cardiac group includes the patients with organic heart disease in whom the ordinary physical activities produce symptoms or discomfort. It is necessary to subdivide *Class II*. *Class II A* embraces the patients with mild symptoms and patients who are quite comfortable when their activity is slightly limited. They may have had one or more previous deliveries without cardiac embarrassment, yet on climbing stairs or doing some of the heavier forms of their housework, they experience shortness of breath. By increasing the amount of rest and restricting their physical activity patients in *Class II A* usually go safely through pregnancy and the puerperium. These patients also should be admitted to the hospital and their delivery governed exactly as the *Class I* patients.

*Class II B* includes patients with organic heart disease where their activity must be greatly limited and where cardiac failure is imminent. These patients frequently have failed in previous pregnancies. It is often a striking observation that the second pregnancy may have been a *Class II A* in the last two or three months before term and in the third pregnancy dyspnea on slight effort may appear as early as the fourth month. The prognosis in this group is serious. The *Class II B* patients should do no work.

The *Class II* patients confront the obstetrician and the internist with the very practical and important problem of deciding how many pregnancies the heart can stand before the cardiac grouping must be advanced. When one considers

that the Class II B patients are on the borderline of failure one has no alternative in forbidding the patient to have further pregnancies. How to prevent further pregnancies depends upon many factors, chiefly the intelligence of the patient in following contraceptive advice and the general philosophic outlook of the patient on childbearing. It is frequently desirable to sterilize such a patient and sterilization may be done at the time of delivery by cesarean section or during the puerperium. In patients above forty with organic heart disease sterilization by x-ray is frequently a satisfactory method. If the Class II B patient is a multipara with a normal pelvis it may be permissible to deliver her normally and sterilize her in the puerperium. On the other hand if the pelvis is of borderline dimensions, and the patient has had difficulty in previous deliveries, cesarean section may be the procedure of choice and section would carry with it the added feature of tubal sterilization. The Class II A patient offers more difficulty in the decision of the number of the children she should bear. If she desires more than one child she certainly should space her pregnancies with a period of at least two to three years between gestations. It is my personal opinion that the Class II A patients usually bear two children without particular difficulty but with subsequent pregnancies they advance to the Class II B or Class III. Therefore, I recommend that a patient in Class II A limit her pregnancies to two.

*Class III* patients are those with organic heart disease with frank cardiac failure, unable to carry on any physical activity. Their treatment is essentially the treatment of heart failure. The prognosis in this group is very grave and almost regardless of the course pursued obstetrically, the maternal mortality is approximately 50 per cent. It is an absolute rule that the heart failure be the prime consideration, and rest in bed, digitalis, and other well-known cardiac measures be instituted as early as possible. With this treatment, if there is

improvement, the patient should be kept in bed and digitalis continued through the pregnancy.

When to interrupt the pregnancy is one of the most difficult problems encountered in obstetrics. The pregnancy should not be interrupted until after cardiac therapy has been instituted and a sufficient period of time has elapsed for the patient to regain full or at least part compensation. If the patient is seen sufficiently early in pregnancy the interruption of the pregnancy may be carried out by cervical dilatation and curettage. Such interruption is highly advisable when heart failure has become manifest during the first three months of pregnancy. If, on the other hand, the pregnancy is of four or more months duration, when dilatation and curettage cannot be carried out, it may be wisest to allow the patient to continue with her pregnancy until the fetus is viable. The risk of operation would be essentially the same at either time. Frequently a cardiac patient in this class will fall into labor and abort spontaneously and Nature solves the problem. If, however, the pregnancy is allowed to continue and its duration becomes sufficient to insure a viable child, one is faced with the dilemma of a pelvic delivery or interruption by cesarean section.

There are many questions yet to be answered and there are many interesting points upon which there is not time for discussion. Before closing, I should like to mention one or two things about the general care of all pregnant cardiac patients regardless of whether they are Class I, II, or III. Every cardiac patient should be followed regularly throughout pregnancy and the puerperium. She should be examined at least every two weeks. She should have impressed upon her at every visit the importance of adequate rest and the avoidance of infection. I believe every cardiac patient should be delivered in a hospital and a medical man as well as an obstetrician should be responsible for her care. Ideally, admission to a hospital no less

than one week before the expected date of confinement is desirable. Under no circumstances should a patient with heart disease be submitted to the Trendelenburg position. If cesarean section is to be done, it is my opinion that open ether is the anesthesia of choice. If the heart failure is so severe that an inhalation anesthesia cannot be given, I would substitute morphine and local anesthesia.

The cardiac patient desirous of having more than one child will do best by spacing her pregnancies over a long period of time with at least two to two and a half years between each pregnancy.

In closing I should like again to emphasize the value of the joint opinion of the obstetrician and the internist in the care of the pregnant cardiac patient.

### INCREASE IN SINUS INFECTION CURES PREDICTED

Because allergy has been found to be one of the primary causes of sinusitis (inflammation of a sinus) the number of cured cases will increase in the future. Herman Semenov, M.D., Los Angeles states in the *J.A.M.A.* for December 10.

His observations on 1 000 cases of sinusitis gave conclusive evidence of allergy in 17 per cent while in 35.4 per cent the history of allergy was not conclusive and in 47.6 per cent the inflammations were of nonallergic origin.

Other important causative agents of the ailment include colds, injuries and bacterial infections.

In sinusitis the mucous membranes of the sinuses become thickened and the mucus more sticky and elastic than it is normally, thus causing obstructions of the nasal passages. Successful treatment of chronic sinusitis obviously requires the removal of offending obstructions and elimination of the allergic agents. Simple drainage rarely provides satisfactory results in cases of pronounced thickening of the mucous membrane. Surgical measures generally are necessary.

In cases involving the chronic discharging of pus the failure of conservative drainage methods invariably indicates that there is a deep-seated infection of the glands and a degeneration of a cyst beneath the mucous membrane.

Surgery rarely is necessary in cases of sinusitis where there is no pus or thickening of the membranes. Nearly two-thirds of such cases are due to allergy, especially when both sinuses are involved.

Hypersensitive individuals are highly subject to inflammation and degenerative changes of the mucous membrane of all the facial sinuses. Thus the underlying allergic condition must first be treated before surgery is considered.

### A NEW JOB FOR THE HUMBLE PIN

A simple and effective eye-dropper for oily preparations is described in the *British Medical Journal*. 'It is an ordinary domestic pin fixed in a suitable handle and the whole chromium plated. If the head only of the pin be dipped into the oil it will lift a globule of the right volume which by a touch on the mucosa of the lower lid is transferred to the eye. The dropper can be boiled.' It avoids messiness and obviates too much being put into the eye by using a glass rod or dropper."

### AESCULAPIUS TRUMPS

Oh spare me from the blatherings  
Of those who while at gatherings  
For bridge discuss their appendectomies  
I'll rate as four star minuses,  
Those sufferers with sinuses  
Who jeer with scorn mere tonsillectomies  
From those whose pet psychosis  
Is their grandpappy's thrombosis  
Or a recently discovered allergy  
Who discuss their rheumatism  
And their aunties' aneurysm,  
May I forevermore delivered be!  
To those whose whole exterior  
Both frontal and posterior  
Is seamed with stitches large and stitches small  
May I say that operations  
Forming inter-deal orations  
Have most decidedly begun to pall.  
Come let us in the future  
Have our bridge without the suture  
The scalpel, and the therapeutic ray  
If you wish, before and after  
Diagnose and heave the rafter  
But while the game is on, SIT IN AND PLAY!  
—Helen Hawthorne in *McLean's Magazine*

# *Special Article*

## OUTLINE OF TREATMENT FOR SYPHILIS

Methods and Technic Followed in the  
Department of Dermatology of the Vanderbilt Clinic

Part III of a Series

A BENSON CANNON, M D , New York City

### Table of Contents

|  | Page |
|--|------|
| What to Expect from Treatment    Criteria of Progress and Cure | 255  |
| The Clinical Response  | 255  |
| The Serologic Response    Tests of Blood and Spinal Fluid      | 255  |
| Criteria of Cure   | 256  |
| The Follow-Up  | 256  |
| Permission to Marry  | 256  |
| Wassermann-Resistant and Relapsing Cases                       | 257  |
| Cure and Reinfection   | 257  |
| Modifications of Routine Treatment for Special Types of Cases  | 257  |
| Aortitis and Hypertension                                      | 257  |
| Aneurysm, Myocarditis, and Cardiovalvular Disease              | 257  |
| Nephritis  | 258  |
| Hepatitis  | 258  |
| Tuberculosis and Syphilis                                      | 258  |
| Anemias  | 258  |
| Special Cases for Malaria Treatment                            | 258  |
| Outline of Treatment for Neurosyphilis                         | 258  |
| Early Neurosyphilis  | 258  |
| Late Neurosyphilis   | 259  |
| Technic of Lumbar Puncture                                     | 260  |
| Selection and Care of Instruments                              | 260  |
| Preparation of Patient   | 261  |
| Determination of Puncture Site                                 | 262  |
| Technic of Puncture  | 262  |
| The Management of Difficulties                                 | 263  |
| Technic of Intraspinal Treatment                               | 263  |
| Preparation of Serum   | 263  |
| Technic of Treatment   | 263  |
| Prevention of Reactions to Intraspinal Treatment               | 264  |
| Care of Patient  | 264  |
| Timing of Blood Withdrawal                                     | 264  |
| Therapeutic Malaria  | 265  |
| Technic of Inoculation   | 265  |
| Management of Patient  | 265  |
| Length of Siege  | 266  |
| Failure of Inoculation   | 267  |
| Sample Form for One-Year Treatment Plan for Individual Patient | 266  |
| Table of Antisyphilitic Drugs                                  | 267  |

### What to Expect from Treatment Criteria of Progress and Cure

The time is rapidly disappearing when it was necessary to issue a warning not to dismiss the patient on the day his last visible lesion was healed, or his first negative Wassermann was returned. Even so, the clearing up of external manifestations and the reduction of a positive serology to negative remain the principal criteria of a patient's progress under antisyphilitic treatment. We have merely arrived at a more critical interpretation of these signs of progress. Just how much to expect from a given treatment scheme applied to a particular patient is difficult to determine without some standards of comparison. I am strongly inclined to believe, in the light of comparative studies carried out in the Vanderbilt Clinic and elsewhere, that the widespread use of substitutes for arsphenamine, the more or less haphazard methods of planning treatment, or, even more, the lack of planning, have tended to obscure the standard of what one has a right to expect from the treatment of syphilis particularly in its early stages. The physician who is satisfied with the results he has obtained with neoarsphenamine is likely to be unaware of the fact that he might in all probability have secured the same results in little more than half the time with another arsphenamine preparation, and that many a 'resistant' case is only a poorly treated one. The tendency to keep a patient under treatment for periods of two, three, five years, or even longer, can be traced in large part to the uncertainties inherent in treating with arsphenamine substitutes, and to having no definite plan.

**The Clinical Response**—A chancre, if of fairly recent origin and uncomplicated by some other infection, will generally heal after a very few injections of arsphenamine, in a young and otherwise healthy subject. Mucous patches and condylomata disappear with astonishing rapidity, while the early generalized macular eruption will usually clear within two or three days after one injection, and almost always after two injections of

arsphenamine. The late secondary eruption is generally more resistant. Gummata respond quickly to arsphenamine, often melting away completely after a few injections, the ulcerative processes require more time.

Marked subjective improvement is common within twenty-four to forty-eight hours after the first arsphenamine injection, and continued treatment is nearly always paralleled by a gain in weight and improvement in the general physical condition. This improvement will be more substantial if the specific treatment has been buttressed by a diet nourishing and rich in vitamins, which is especially necessary to offset dietary restrictions on treatment days, and by additional rest and moderate exercise.

The following results obtained in the treatment of fifty-eight patients with primary syphilis, under clinic conditions, show the relative efficacy of three different arsphenamine preparations.

|  | OLD<br>ARSPIHENA<br>MINE<br>20 CASES | SILVER<br>ARSPIHENA<br>MINE<br>25 CASES | NEO-<br>ARSPIHENA<br>MINE<br>13 CASES |
|--|--------------------------------------|---|---------------------------------------|
| Average time<br>and injections<br>required for<br>complete<br>resolution of<br>chancre | 12 5 days<br>3 1 inj's.              | 18 4 days<br>6 4 inj's.                 | 21 3 days<br>4 8 inj's.               |

**The Serologic Response Tests of Blood and Spinal Fluid**—During treatment of early syphilis we recommend that a blood Wassermann be taken once a week, before the injection, and never less often than once a month. In early syphilis a positive blood Wassermann may be expected to become negative by the end of the first course or during the early part of the second course of arsphenamine, if it does not, at least one full course of arsphenamine and one full course of a heavy metal should be given after the first negative. The fact that in some early cases the Wassermann will become negative after the first few injections should not lead one to shorten the prescribed course of treatment. Conversely, the temporary positive which occasionally supervenes in the seronegative primary stage after treatment is begun

should not be construed as a relapse, it indicates that the patient's blood was on the verge of a positive reaction when treatment was initiated, and that the first arsphenamine injection acted as a provocative

It should be understood that for patients with early syphilis the minimum standard treatment outlined should be pursued regardless of serologic reactions during the first year, but upon these serologic reactions depends to a large extent the disposal of the case at the end of the year. If the spinal fluid should be found positive at any time during the first six months of the syphilitic infection, treated or untreated, but no symptoms of neurosyphilis are in evidence, it is best to carry out the regular treatment for early syphilis to the end of the year and then re-check. For the occurrence of a positive blood or spinal fluid beyond the first year of treatment, see under the topics "Wassermann-Resistant and Relapsing Cases" and "Neurosyphilis."

During the treatment of late syphilis a Wassermann test should be done once a month, and never at longer intervals than three or four months. Barring some definite indication to the contrary, treatment for tertiary and latent cases should be pursued for at least one year, as outlined, regardless of serologic response. A positive Wassermann persisting beyond this time calls for special consideration, as explained in subsequent topics.

*Criteria of Cure*—We are now to suppose that the patient admitted with early syphilis has pursued the standard course of treatment for one year, as outlined. To be eligible for discharge, he must have fulfilled the following requirements

- 1 He must have completed one year (never less than eleven months) of regular and continuous treatment according to plan

- 2 He must have been free from both external and serologic evidences of syphilis for not less than six months, and he must have received not less than one complete course of arsphenamine and one

complete course of bismuth or mercury after the first negative Wassermann

- 3 The spinal-fluid test (Wassermann, colloidal gold and cell count) must be negative at the end of the first year. A negative spinal fluid at the end of the first course of treatment serves as an additional guarantee against neurosyphilis

- 4 A complete physical and neurologic examination, supplemented by roentgenograms of heart and aorta, and by electro-cardiogram, must disclose no evidence of syphilis at the completion of the prescribed treatment.

*The Follow-Up*—When a patient has completed the first year of standard treatment and has fulfilled the requirements for discharge, he should be told to return for a blood test at intervals of three months during the next year. If these trimestrial tests are consistently negative, he should return during the next two or three years at six-month intervals and thereafter at yearly intervals

A complete physical examination, including tests of blood and urine, should be given not less than once a year, and preferably every six months, after the patient has been discharged from treatment. Since the periodic physical examination is generally recommended, even for persons without a history of syphilis, it is obviously all the more important for those who do have such a history. The patient can easily arrange for a blood Wassermann to be added to the usual annual or semiannual physical examination, if this is not already a part of the routine procedure.

*Permission to Marry*—A patient who has completed the required treatment and has remained free from symptoms of any kind for one year after discharge may be permitted to marry, upon the understanding that he adhere scrupulously to the follow-up policy outlined above.

In most of the above discussion we have assumed that the patient pursued the prescribed treatment for one year, and that his response was satisfactory enough to make him eligible for discharge on probation at the end of the year. If the

patient has not responded favorably to regular and continuous treatment as outlined, or if he has been irregular in attendance, or unable to tolerate average doses of the preferred drugs, treatment must then be continued into the second year, with modifications to suit the individual case.

*Wassermann Resistant and Relapsing Cases*—A small percentage of early cases and a larger percentage of tertiary and latent cases, including the congenital ones, will fail to show a serologic response to the routine forms of treatment, or will fluctuate unaccountably between positive and negative. In such cases the spinal fluid test, advocated as a routine measure at the end of the first year of treatment, is likely to be particularly revealing. If the spinal fluid is positive, the patient should be treated for neurosyphilis, even though no clinical symptoms are as yet in evidence. If the spinal fluid is negative and the patient symptom free, one may properly suspect drug fastness, and a change from one arsphenamine preparation to another—also a change from mercury to bismuth or vice versa—will often bring results. In congenital syphilis and in some forms of neurosyphilis which have been treated by the usual methods over long periods of time without a negative Wassermann having been obtained, it is permissible to try malaria, typhoid vaccine, or fever box therapy.

When a patient previously discharged and under observation shows a single positive Wassermann after a series of negatives, it is best to wait a few weeks and then repeat the test, sending samples to two or more laboratories for comparison. This precaution is all the more necessary if the Wassermann is only partially positive. Meanwhile a careful search should be made for any clinical signs which may possibly have been overlooked in the routine physical examination. If any such signs are detected, or if the patient presents any lesion which might be thought to be syphilitic, or if several Wassermann tests, preferably made by different laboratories, have in the interim been declared positive a pro-

vocative injection of arsphenamine is in order. This treatment should be followed by a series of Wassermann tests at intervals of forty-eight hours, three days, five days, seven days, ten days, and two weeks. If a strongly positive Wassermann develops under these conditions, it may be construed as an indication for specific treatment. Without these safeguards, I should consider it unjustifiable to resume treatment on the evidence of a single positive Wassermann, after a patient has fulfilled the prescribed requirements for a cure.

*Cure and Reinfection*—It should not be forgotten that, contrary to what happens in most other infectious diseases, immunity in syphilis, so far as is known, lasts only as long as the disease. Once he is cured the patient may acquire a fresh syphilitic infection, in which case he should be treated as for the original infection. Many of the so-called "reinfections" reported in the literature, and adduced as proof of cure, are in all probability relapses in patients inadequately treated. Not until a patient has fulfilled strictly the requirements outlined above, and has remained clinically and serologically negative over a period of years, is one entitled to speak of a "cure."

#### Modifications of Routine Treatment for Special Types of Cases

*Aortitis and Hypertension*—The usual treatment for late syphilis may be given if special pains are taken to avoid reactions.

*Aneurysm, Myocarditis, and Cardiovalvular Disease*—These diseases call for rest in bed and sharp limitation of physical activity. Only patients with special types of aneurysm should receive arsphenamine, and then only in small doses, not oftener than once a week, and preferably while resting in bed. In general, for patients with aneurysm, myocarditis, or cardiovalvular disease it is best to use bismuth and mercury in alternating courses, along with potassium iodide.

**WARNING!** Antisyphilitic treatment of all kinds should be avoided in cardiac cases with decompensation.



*Nephritis*—Nephritis responds best to arsphenamine alone. The dose and intervals should be modified according to the requirements of the particular case, though moderate doses at weekly intervals are usually found to suffice. Syphilitic nephritis clears up with surprising rapidity under antisyphilitic treatment.

*Hepatitis*—Treat preferably with heavy metals and the iodides. It is better not to give arsphenamine to patients with hepatitis, especially in the first few months of treatment, and then only after careful tests have been made of the functional capacity of the liver. These tests should include the bile index, the Van den Bergh test, and tests for blood arsenic, and should be repeated at least every two weeks, and preferably every week.

*Tuberculosis and Syphilis*—No patient with actively progressing tuberculosis should receive antisyphilitic treatment unless he has infectious syphilitic lesions, in which case just enough treatment should be given to clear up the open lesions, usually a very few injections of arsphenamine will suffice for this. Caution should be observed in the treatment of syphilitic patients with arrested tuberculosis. Small doses of arsphenamine should be given at weekly intervals, not more than six or eight injections in a course, followed by a course of bismuth. Mercury and iodides should be avoided. Special pains should be taken to prevent reactions of all kinds. Any untoward symptoms or loss of weight should be taken as an indication to stop treatment. When the usual treatment for tuberculosis does not bring the expected results, especially in cases in which the diagnosis is open to question, and the patient has a history of syphilis or a positive serology, one is justified in treating him for syphilis, observing the precautions outlined above. Some of the cases originally diagnosed as tuberculosis are in all probability syphilis of the lung. These show striking improvement under specific therapy.

*Anemias* respond well to small to moderate doses of arsphenamine given at

five- to seven-day intervals. Courses of arsphenamine should be followed by bismuth and potassium iodide. Mercury is usually contraindicated. Special care should be taken to build up the blood by means of a diet rich in vitamins, plus iron and liver extract.

*Special Cases for Malaria Treatment*—In addition to its use in neurosyphilis, malaria may be used to advantage in the following types of cases:

a Wassermann-resistant cases, all forms, including congenital.

b Interstitial keratitis in the acute stage give regular treatment for early syphilis, and then follow with malaria.

c Early syphilis in cases in which the time element is important, as in transients in city institutions who cannot be kept long enough to complete the usual routine treatment, malaria has the advantage of keeping the patient hospitalized long enough so that at least one and usually two complete courses of arsphenamine can be given.

Kyrle of Vienna, treating patients with early syphilis, found that by using arsphenamine, supplemented by malaria, he was able to achieve a satisfactory clinical cure and to prevent neurosyphilis.

### Outline of Treatment for Neurosyphilis

Of all the forms of syphilis, none is so insidious in onset, so deceptive in manifestations—or lack of them—and so unpredictable in its course, as that involving the nervous system. By the time clinical symptoms are fully apparent to the diagnostician, the disease has usually progressed so far that the most to be hoped for is a temporary arrest of the process and relief from the more troublesome of the symptoms. It is therefore doubly important to detect, if possible, the first advance of the parasite upon the nervous system, which may occur even before the secondary skin eruption has appeared.

*Early Neurosyphilis*—A Asymptomatic—The first evidence of involvement of the nervous system is to be found in the altered reaction of the spinal fluid, a marked increase in the cell count and

globulin, and the more or less strongly positive Wassermann and colloidal tests (gold or mastic) For this reason the ideal procedure would be to make a routine test of the spinal fluid of every patient admitted for the treatment of syphilis, of whatever stage Practically, however, this early preclinical neurosyphilis is almost certain to involute by the time the patient has completed the first course of regular treatment for early syphilis A test of the spinal fluid performed at this time will serve to confirm this in the great majority of instances, while in the occasional case with positive findings the physician will be on his guard throughout the subsequent courses In any case, then, in which the blood and spinal fluid are both found to be strongly positive within the first six months of a syphilitic infection, treated or untreated, and there are no clinical manifestations of neurosyphilis, one may safely proceed with the usual treatment for early syphilis If at the end of the first year of regular treatment for early syphilis, a patient shows a positive blood and a positive spinal fluid, even though no symptoms of neurosyphilis are in evidence, a more radical form of treatment is indicated, as for late neurosyphilis

**B Meningeal**—In early neurosyphilis of the meningitic type which has developed within the first two years of infection but which has as yet shown no evidence of degenerative processes in brain or cord, intraspinal therapy should be given. Sometimes one or two treatments are sufficient to bring about a reversal of the positive spinal fluid and a disappearance of symptoms One may then proceed with the standard treatment.

**Late Neurosyphilis**—The majority of cases of advanced neurosyphilis will be found either in persons who have never received any antisymphilitic treatment or in those who have been inadequately treated at some more or less remote period. In all cases of late neurosyphilis except those in which the patient has received fairly recent treatment—that is, within the past two years—it is safer to begin with the heavy metals and iodides,

pursuing the standard treatment plan used in tertiary syphilis for several months, and examining the spinal fluid at least every four to six weeks If there is no appreciable change in the serologic or clinical findings after four to six months of the standard treatment for tertiary syphilis, it is then incumbent upon the physician to make a choice from among the various types of treatment specially adapted to neurosyphilis, namely, intraspinal therapy, malaria, or other forms of fever therapy, and tryparsamide, supplemented by the heavy metals and iodides From the following outline it can be seen which of the special types of treatment are best suited to each of the different forms of advanced neurosyphilis

**A Malaria** is indicated in

1 All cases of general paralysis and preparetic states.

2 All cases of neurosyphilis in congenital syphilitics.

Malaria is contraindicated in elderly patients and those with cardiac disease, nephritis, or other serious constitutional disability

**B Intraspinal therapy** is indicated in

1 All tabetic types in patients suffering from shooting pains or gastric crises, intraspinal therapy not only brings down a positive spinal fluid but frequently gives marked relief from symptoms

2 Optic atrophy intraspinal therapy will often arrest the process and maintain vision stationary, if treatment is persisted in long enough, the spinal fluid may become negative.

3 Elderly persons with active neurosyphilis, and patients with cardiac disease, nephritis, or other serious constitutional disability in whom malaria would be dangerous

4 Patients with active neurosyphilis who have already had malaria treatment and who do not react to subsequent inoculations

**C Tryparsamide** is indicated as follows

1 One course before beginning malaria treatment, and another afterward,

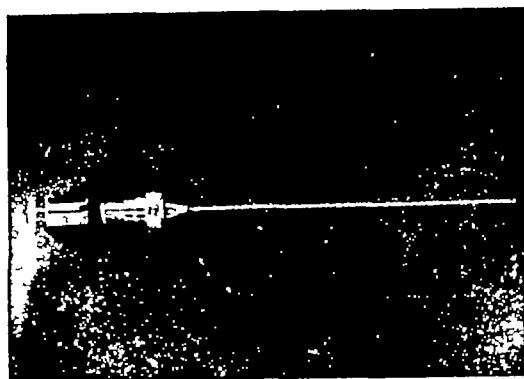


Figure 1 The Cannon Needle for Lumbar Puncture long-sleeved stylet partly withdrawn, uncovering inner sheath of hub, which is protected from contamination when stylet is in place

alternating courses of tryparsamide with heavy metals and the iodides

2 In rare cases of tabes, where the patient is below par physically and pain persists in spite of intraspinal therapy

D Tryparsamide is contraindicated in

1 Optic atrophy and cranial nerve deafness

2 Tabetics with marked ataxia and those with bladder and rectal symptoms, tryparsamide sometimes increases these symptoms

3 Early syphilis. Tryparsamide is not a treponemicidal drug, and should never be used in routine treatment of early syphilis, but in neurosyphilis it often brings about a gain in weight and improvement in the patient's general condition

**WARNING!** Tryparsamide often causes optic neuritis, hence the eyes should be examined before and at intervals during courses of treatment. The drug should be discontinued at once if the patient becomes aware of any visual disturbances, however slight. The first abnormality detected by the ophthalmologist is usually a contraction of the visual fields, but this is frequently preceded by subjective symptoms. The patient, if questioned, will complain of seeing black and yellow dots or streaks, or of letters running together, while as yet no objective changes can be detected. Stopping

the drug at this point reduces the danger to a minimum

A positive spinal fluid is always an indication for treatment, even when no symptoms are in evidence. If the patient remains untreated it is only a matter of time before symptoms will appear, but treatment, in the majority of cases, will serve to forestall the appearance of symptoms. The age of the patient, his

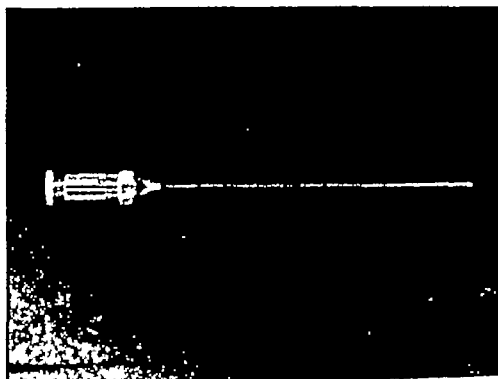


Figure 2 The Cannon Needle for Lumbar Puncture long-sleeved stylet locked into position, ready for puncture

earning capacity and life expectancy, number of dependents, etc., should be taken into consideration before the more radical forms of treatment for neurosyphilis, particularly fever therapy, are undertaken. If the patient is a fairly vigorous person in the forties or early fifties, active treatment for neurosyphilis may add many years to his business, family, and social life. But if he is well on into the sixties or beyond, is not very vigorous, and has no immediate dependents, it is usually best to limit oneself to the milder forms of treatment.

### Technic of Lumbar Puncture

The essentials of a successful lumbar puncture may be reduced to the following: (1) proper selection and care of instruments, (2) preparation of patient, (3) determination of puncture site, and (4) technic of puncture.

*Selection and Care of Instruments*—Strict asepsis is imperative in any opera-

tion involving the spinal canal. At the same time, the formidable array of equipment pictured in most textbooks is likely to deter the practitioner from making a spinal test or from instituting treatment which is of vital importance to his patient. In performing a spinal puncture, the chief possibility of contamination lies in the needle, which must be handled directly by the operator. Some of the escaping fluid will dribble over the edge of the hub previously handled. This is especially dangerous when fluid is being withdrawn for treatment, for a few drops of this contaminated fluid may easily be washed back into the spinal canal and cause infection.

To obviate this danger a special needle was devised. This needle has a cylindrical hub made in concentric parts, chief of which are a long smooth inner sheath continuous with the hollow shaft of the needle, and a short corrugated outer sheath or hilt, by which the needle is grasped when the stylet is not in place. The stylet is capped with a long cylindrical sleeve which fits down over and completely covers, without touching, the inner sheath of the hub, being locked to the outer sheath by a notch and pin device. In performing a spinal puncture with this needle, the operator's fingers do not come in contact either with the shaft, or with that inner part of the hub which receives the spinal fluid. The hub is somewhat heavier than that of the ordinary needle, and thus helps to direct the course of the needle in its passage into the canal. The additional protection provided by this comparatively simple arrangement reduces the risk of infection to a minimum and makes it possible to perform the operation, for either diagnostic or therapeutic purposes, in a private office, with a minimum of equipment.\*

In the usual spinal puncture for withdrawal of fluid only, a 21 gage needle is used, for intraspinal therapy a slightly larger bore (19 or 20-gage) is preferable.

\* The Cannon needle for lumbar puncture is manufactured by Becton Dickinson and Co. Rutherford N. J.



Figure 3 Determination of site for lumbar puncture. If tip of third or index finger is placed on superior iliac crest and thumb is extended at right angles, thumbnail will be in position to mark third or fourth lumbar interspace (either may be used). For details see text page 262.

Each needle must be sharpened to a very fine point, bevel edge and point must be absolutely smooth and free from rust. Needles should be thoroughly washed with soap and water, then allowed to stand in olive oil, the oil removed with ether (alcohol will corrode), and the needles sterilized with dry heat. For sterilizing, the needle is placed in a test tube with cotton at the closed end, and the tube is then plugged with cotton or gauze. It should be left in the dry sterilizer for two and a half to three hours at a constant temperature of 212 F.

*Preparation of Patient*—The patient should lie on his side, with knees flexed over the abdomen, head bent down as close to the knees as possible and resting comfortably on small flat pillow. If the patient is nervous, his hands may be



Figure 4 Technic of lumbar puncture showing patient and operator in position. The patient lies on her side, with knees flexed over abdomen, head bent down as close to knees as possible, and upper shoulder inclined slightly forward, lumbar region is at edge of bed, in a vertical plane. Note comfortable relaxed position of operator, who sits well away from patient, so that when the arm is extended, the forearm is on a line with the site selected for puncture.

locked over his knees. When the patient is in position, the lumbar region should be at the edge of the bed, in a vertical plane. To avoid twisting of the spinal column incline the upper shoulder slightly forward. It is better for the physician or nurse to make minor adjustments, encouraging the patient to relax.

*Determination of Puncture Site*—If the tip of the third or index finger is placed on the superior iliac crest and the thumb is extended at right angles, the thumbnail will be in position to make a horizontal mark in the third or fourth lumbar interspace (either may be used). Now release the index finger and allow it to

slip forward over the fourth or fifth vertebral process (whichever forms the lower boundary of the interspace to be punctured). Just proximal to the bony ridge, make a vertical mark with finger nail. The intersection of the two nail marks indicates the site to be punctured. This, the distal portion of the groove or interspace, is preferable to the exact center, in case a sudden straightening-out movement on the part of the patient should close the groove.

*Technic of Puncture*—As a routine measure the operator washes his hands thoroughly with soap and water, followed by 70 per cent alcohol. The puncture site should be thoroughly wiped off with iodine, followed by 70 per cent alcohol, and then anesthetized with a 2 per cent solution of procaine hydrochloride, injected through a small hypodermic needle. Infiltration of the skin will be marked by the appearance of a pea-sized wheal. Without withdrawing the needle, the syringe should be elevated and the remainder of the procaine hydrochloride injected slowly, right up to the hub of the needle. Besides anesthetizing the skin and underlying tissues, this will serve as a guide in performing the lumbar puncture.

The operator now adjusts his position by sitting well away from the patient—almost at arm's length—so that when the arm is extended, the forearm is on a line with the site selected for puncture. The needle is grasped by the exposed portion of the hub, and the stylet, after being moved up and down to make sure that the lumen is patent, is locked into position. The hub (now protected by the long sleeve of the stylet as previously described) is taken between thumb and index finger, and allowed to rest on the middle finger. The operator, thoroughly relaxed, flexes the wrist in order to get a straight alignment with the mark, making sure that the point of the needle is directed straight in and slightly cephalad. The patient is then asked to take a deep breath, and at the height of inhalation, the operator, by a quick wrist motion, thrusts the needle in  $1\frac{3}{4}$  to 2 inches. The depth will de-

pend upon the amount of adipose tissue, on very obese patients it may be necessary to thrust needle in five or occasionally even six inches. The sudden feel of lessened resistance, sometimes audible as a slight snap, indicates that the point has penetrated the dura and is in the canal. The operator should at once remove the stylet and allow a few drops of fluid to escape. As soon as it is apparent that the fluid is clear, 5 to 8 cc. is collected in one test tube for the Wassermann and colloidal gold tests, and 2 cc. in another tube for the cell count and globulin determination.

The patient should lie face downward for at least half an hour, preferably for one or two hours afterward.

*The Management of Difficulties*—If the preliminary instructions for placing the patient and selecting the site for puncture have been carefully followed, any failure that occurs can usually be attributed to faulty posture on the part of the operator. A cramped position, with elbow bent and wrist tense, and introduction of the needle by a slow boring motion, makes the operation needlessly difficult. It is of the utmost importance that the operator be seated in a comfortable position, with wrist and forearm completely relaxed. If the wrist is tense, it should be shaken out and flexed back and forth several times to get the alignment before the needle is thrust in. The needle should be allowed to take the course of least resistance.

When the operator estimates that he has gone the proper distance, but is uncertain whether the canal has been entered, he should remove the stylet, taking care not to allow it to touch anything. If no fluid appears, he should reinsert the stylet and advance  $\frac{1}{8}$  to  $\frac{1}{4}$  inch farther, repeating the process until he either obtains fluid or strikes bone. If bone is struck the needle should be withdrawn almost to skin level and redirected laterally up or down. If blood is obtained, the needle should be rotated half way around. If the fluid does not become clear after a few drops have been allowed to run out, it should be with-

drawn completely and a puncture made in the adjoining interspace.

### Technic of Intraspinal Treatment

*Preparation of Serum*—The patient is given the usual dose of arsphenamine. One-half hour later, under sterile precautions, approximately 50 cc. of blood is withdrawn in a small necked centrifuge tube, using the McRae needle or a syringe. A sterile cork is inserted, covered with sterile gauze, and fastened on with a rubber band. The tube of blood is kept in the icebox overnight. The blood is then centrifuged for thirty minutes to separate clot from serum. The serum is then pipetted off into another tube and centrifuged in order to remove all blood cells. It is pipetted off a second time into another sterile tube. The amount at this point will average about 20 to 25 cc. This is now placed in a water bath and maintained at a temperature of 56 to 57½ C. for thirty minutes in order to destroy complement (serum is about twenty times more treponemicidal when complement is destroyed). The serum is now ready for injection at body temperature.

*Technic of Treatment*—A spinal puncture is done in the usual way. Five to 8 cc. of spinal fluid is collected in one test tube for the Wassermann and colloidal gold tests, and in another, 2 cc. for cell count and globulin determination. To the spinal needle a Snyder gravity tube is now attached (the barrel of a 50 cc. syringe or a buret may also be used) by means of a section of rubber tubing 18 to 24 inches long, with male adapter at end. By lowering the Snyder tube, 30 to 40 cc. of spinal fluid is allowed to gravitate into it. It will often happen that a patient will complain of severe headache after about 30 cc. of fluid has been withdrawn. In this case stop at once, but if the patient does not have too severe a headache, the tube may be allowed to fill to within  $\frac{1}{4}$  inch from the top. The Snyder tube is now elevated and as the spinal fluid begins to gravitate slowly back into the canal, the serum is added drop by drop. This insures a thorough mixture outside



Figure 5 Close-up of operator performing lumbar puncture. Hub of needle is grasped between thumb and index finger and allowed to rest on middle finger, point of needle is directed straight in and slightly cephalad. Needle is thrust in  $1\frac{3}{4}$ -2 in. on patient of average build.

the body, and in such a way that the first of the fluid to be returned contains the lowest concentration of the medicated (and potentially irritating) serum, the concentration increasing as the tube is emptied. When the tube is empty, milk down the remaining fluid through the rubber tubing and needle. If possible, about 20 cc more of the mixture is introduced than the amount of fluid withdrawn, in order to produce an increase in intraspinal pressure. Withdraw the needle in usual way and put on dressing. The patient may go home in twenty-four hours.

Courses of eight to ten injections at two-week intervals are given in cases of cerebrospinal syphilis and in early tabes. There should be an interval of one and

one-half to three months between courses. In advanced tabes with marked functional disorders, such as pronounced ataxia, incontinence of bladder, anesthetics, treatments are spaced at longer intervals (three to six weeks).

#### Prevention of Reactions to Intraspinal Treatment

*Care of Patient*—After the injection, have the patient lie face downward.



Figure 6 Lumbar puncture completed, needle withdrawn and fluid being collected for tests.

at least one-half hour. If a reaction occurs after the first injection the patient is usually given aspirin (10 grains), phenacetin (10 grains) and codeine (grain) one-half to three-quarters of an hour before the next anticipated reaction. This will either prevent or greatly modify attacks of pain. Avoid all hypodermic medication unless absolutely necessary.

*Timing of Blood Withdrawal*—In

eral, the incidence of reactions after intraspinal treatment is proportional to the dose of arsphenamine which the patient has received intravenously, and to the interval which is allowed to elapse before the blood is withdrawn. Serum from blood withdrawn within ten to fifteen minutes after the injection of a full sized dose of arsphenamine is highly toxic, and almost certain to cause a reaction. Unfortunately, as the dose is decreased and the interval lengthened, the serum tends to lose not only its toxicity but also its therapeutic properties as well. I have found thirty minutes after the arsphenamine injection to be the best average time for the withdrawal of blood, as advocated in the Swift-Ellis procedure. When there is marked involvement of the posterior nerve roots, as evidenced by ataxia, anesthetics, and irritability of the bladder and rectum, it is necessary to compromise by giving relatively smaller doses of arsphenamine and delaying withdrawal of blood until one hour afterward. Various studies indicate that the beneficial effect is due, not to the direct action of the arsphenamine itself, but to antibodies produced in the serum, probably by the arsphenamine or the syphilitic infection, or both.

### Therapeutic Malaria

Malarial treatment should not be attempted unless the patient can be hospitalized under close medical supervision. Under no circumstances should it be instituted without establishing in advance that the patient's general physical condition justifies the risk involved (see "Contraindications to Malaria" under "Outline of Treatment for Neurosyphilis").

*Technic of Inoculation*—Blood should be taken from a patient infected with *Plasmodium vivax*, the parasite of benign tertian malaria. Suitable patients can be found in most neurologic and psychiatric institutions. Patients infected with tropical malaria should not be used. Withdraw 2 cc. of blood from the malaria patient, preferably an hour or so after the chill, at the height of the fever. One or two cc (never more than two) of the

whole blood is given to the syphilitic patient as soon afterward as possible. If it is not to be used immediately, the blood must be citrated by adding to it an equal quantity of a 0.5 per cent solution of sodium citrate. When blood is transported from the donor to the recipient, the tube should be carried in the inside vest-pocket to keep it warm. It may be kept for a day or two in an incubator. In order to be sure of a "take," in addition to injecting 1 or 2 cc intravenously, one may inject 1 cc. of the malarial blood intramuscularly in the same patient. Typing of blood is not necessary when such small quantities are injected.

*Management of the Patient*—The first chills and fever usually occur five to seven days after an intravenous injection, and ten to fourteen days after an intramuscular injection. If the patient does not develop symptoms of malaria within three or four days after the expected time, the attack may be induced by intramuscular injections of milk, colloidal manganese, or typhoid vaccine. The paroxysms of chill and fever last for several hours, and may occur daily or every three or four days. The temperature should be taken every few hours between paroxysms, and every half hour during the fever, it should not be allowed to exceed 106 F. The attack may be broken off at any time, or reduced in severity, by the administration of quinine—10 grains every four hours for three to five days. During the course of the malaria a careful record should be kept of temperature, pulse, and respiration, and of fluid intake and output. Frequent red blood counts and urinalyses should be made, and the blood pressure taken daily, both during and between paroxysms. The heart and spleen should also be examined frequently, and from time to time the blood should be examined for malaria parasites. During the periods of normal temperature it is advisable to give a nutritious diet, because on the days of chill and fever there is usually a complete loss of appetite. After the termination of the course a nutritious diet, cod liver oil, and iron are



## Sample Form for One-Year Treatment Plan for Individual Patient

| Name         |      | Diagnosis       |      | OTHER MEDICATION |  | LABORATORY REPORTS AND REMARKS |  |
|--------------|------|-----------------|------|------------------|--|--------------------------------|--|
| ARSPHENAMINE |      | MERCURY BISMUTH |      |                  |  |                                |  |
| Date         | Amt. | Date            | Amt. |                  |  |                                |  |
| 1            |      | 1               |      |                  |  |                                |  |
| 2            |      | 2               |      |                  |  |                                |  |
| 3            |      | 3               |      |                  |  |                                |  |
| 4            |      | 4               |      |                  |  |                                |  |
| 5            |      | 5               |      |                  |  |                                |  |
| 6            |      | 6               |      |                  |  |                                |  |
| 7            |      | 7               |      |                  |  |                                |  |
| 8            |      | 8               |      |                  |  |                                |  |
| 9            |      | 9               |      |                  |  |                                |  |
| 10           |      | 10              |      |                  |  |                                |  |
|              |      | 11              |      |                  |  |                                |  |
|              |      | 12              |      |                  |  |                                |  |
|              |      | 13              |      |                  |  |                                |  |
|              |      | 14              |      |                  |  |                                |  |
|              |      | 15              |      |                  |  |                                |  |
| ARSPHENAMINE |      | MERCURY BISMUTH |      |                  |  |                                |  |
| Date         | Amt. | Date            | Amt. |                  |  |                                |  |
| 1            |      | 1               |      |                  |  |                                |  |
| 2            |      | 2               |      |                  |  |                                |  |
| 3            |      | 3               |      |                  |  |                                |  |
| 4            |      | 4               |      |                  |  |                                |  |
| 5            |      | 5               |      |                  |  |                                |  |
| 6            |      | 6               |      |                  |  |                                |  |
| 7            |      | 7               |      |                  |  |                                |  |
| 8            |      | 8               |      |                  |  |                                |  |
| 9            |      | 9               |      |                  |  |                                |  |
| 10           |      | 10              |      |                  |  |                                |  |
|              |      | 11              |      |                  |  |                                |  |
|              |      | 12              |      |                  |  |                                |  |
|              |      | 13              |      |                  |  |                                |  |
|              |      | 14              |      |                  |  |                                |  |
|              |      | 15              |      |                  |  |                                |  |
| ARSPHENAMINE |      | MERCURY BISMUTH |      |                  |  |                                |  |
| Date         | Amt. | Date            | Amt. |                  |  |                                |  |
| 1            |      | 1               |      |                  |  |                                |  |
| 2            |      | 2               |      |                  |  |                                |  |
| 3            |      | 3               |      |                  |  |                                |  |
| 4            |      | 4               |      |                  |  |                                |  |
| 5            |      | 5               |      |                  |  |                                |  |
| 6            |      | 6               |      |                  |  |                                |  |
| 7            |      | 7               |      |                  |  |                                |  |
| 8            |      | 8               |      |                  |  |                                |  |
| 9            |      | 9               |      |                  |  |                                |  |
| 10           |      | 10              |      |                  |  |                                |  |
|              |      | 11              |      |                  |  |                                |  |
|              |      | 12              |      |                  |  |                                |  |
|              |      | 13              |      |                  |  |                                |  |
|              |      | 14              |      |                  |  |                                |  |
|              |      | 15              |      |                  |  |                                |  |

prescribed The patient should be kept in bed for a week or ten days, and then, if possible, sent on a holiday, preferably to the mountains, for a complete convalescence from malaria. After this rest period he should receive another course of arspenamine

*Length of Siege*—The ideal course of

therapeutic malaria is generally thought to consist of eight to ten elevations of temperature above 101 F and not exceeding 106 F In reality, different individuals react to the infection in different ways Some will have a severe paroxysm with high fever for the first two or three times, after which the rises

Table of Antisymphilitic Drugs

| DRUG   | METALLIC CONTENT                                | MEDIUM   | DILUTION  | ROUTE         | DOSEAGE                                     |
|--|---|--|---|---------------|---|
| OLD<br>ARSPIRENAMINE<br>("Salvarsan")<br>("606")               | Arsenic<br>81%                                  | Water or<br>Physiologic<br>Saline<br>(Solution must<br>be alkalized<br>before injection) | For Syringe<br>5 to 10 cc.<br>per decigram<br>of drug | Intravenous   | Men 0.3 to 0.5 Gm.<br>Women 0.15 to 0.4 Gm. |
| SILVER<br>ARSPIRENAMINE  | { Arsenic<br>19 to 20%<br>Silver<br>12 to 14%   | Water<br>with or without<br>Physiologic<br>Saline  | As above  | Intravenous   | Men &<br>Women } 0.15 to 0.3 Gm.            |
| MERCURY<br>Biclylate   | Mercury<br>85%                                  | Vegetable Oil<br>(Suspension)  | None  | Intramuscular | Men &<br>Women } 1/4 to 1 1/4 grains        |
| Bicchloride  | 73.8% }   | Water or<br>Physiologic<br>Saline  | None }  | Intramuscular | Men &<br>Women } 1/4 to 1/4 grain           |
| Sodichloride   | 80% }   |  | None }  |               |   |
| BISMUTH<br>Bismu-cynol<br>Sodium potassium<br>Bismuth tartrate | Bismuth<br>80 mg<br>per cc.<br>50 mg<br>per cc. | Olive Oil<br>(Solution)<br>Olive and<br>Almond Oils<br>(Suspension)                      | None<br>None }  | Intramuscular | Men &<br>Women } 1 to 2 cc.                 |

in temperature will gradually limit them selves to 100 or 101 F for the remaining attacks. In still other cases the attacks throughout do not exceed 101 F. I have noted just as much clinical and serologic improvement in those patients who run a mild febrile course as in those who run a high temperature. Hence it seems questionable what influence the fever itself actually has on the course of the disease. For all practical purposes, if the patient develops malaria with parasites demonstrable in his blood, and runs eight to ten successive paroxysms of fever with or without chills, one will have met the requirements.

*Failure of Inoculation*—A certain num

ber of patients, including not only those who have had malaria before but also some with no previous history of malaria, will be refractory to malaria. If either donor or recipient has recently been treated with quinine, inoculation may fail. In such cases one must resort to typhoid intravenously, fever box, or intraspinal therapy.

The cost of malarial therapy may be cut down by allowing the patient to delay entering the hospital until three or four days after inoculation.

*The Outline of Treatment for Syphilis which has been published serially is concluded in this issue*

## HOW ILLINOIS DOES IT

The Illinois State Department of Public Health has announced that sulfanilamide is available free on requests of physicians for the treatment of patients suffering from gonorrhea. The only requirement is that the request be accompanied by a report of the cases for which the drug is desired. Cases may be reported by

either name or code number. Any physician in Illinois may obtain sulfanilamide sufficient to treat any and all gonorrhea patients under his care who in the physician's judgment will be benefited thereby.

The drug is distributed in vials of 100 tablets of 5 grains each.

## *Special Article*

### "QUO VADIS?"

Address by LEO F. SIMPSON, M.D., on the occasion of the Dedicatory Dinner, Rochester Academy of Medicine, held at the Oak Hill Country Club, January 12, 1939

AS YOU possibly suspect, we are here tonight to participate in the inaugural ceremonies of our new home, and to again congratulate Dr. Albert D. Kaiser. The members of the Rochester Academy of Medicine, together with all other physicians in Monroe County, must indeed have feelings both of thanksgiving and of responsibility.

Our heartfelt gratitude goes out to the daughters of Mr. and Mrs. Edmund Lyon who have, by their generosity, carried on into the future years, the charity, the thoughtfulness for the unfortunate, and the high sense of civic responsibility, so nobly exemplified by their parents during their stay on earth.

We are also deeply indebted to those public-spirited citizens of Rochester who contributed two-thirds of our endowment fund of \$150,000. This was indeed an intelligent vote of confidence.

Such generosity and such confidence carry with them the implication of a faith and a trust that must be lived up to to the limit of our capacity. Our service to the individual, and to the community, must be revitalized by such a manifestation of confidence, else their gifts become but funny shapes of brick and mortar—nothing more. We have little doubt that with these increased facilities for its library, for its meetings, for its various groups of specialized study, that the Rochester Academy of Medicine, in the years to come, will amply repay this community in ever greater dividends of health, and relief from suffering.

It is not to the generous people of whom I have spoken that medicine must make a new appeal. They have a sense of real values. Their emotional tone is of the highest quality and is guided by

keen intellect. They know what organized medicine has done for the community, and they would have it live and carry on.

But it is a coincidence that the Rochester Academy of Medicine should have come into possession of the home, now being dedicated, at a time when the results of the efforts of a self-governing profession in the care of the sick of this country, are being called into question.

Medicine is now on trial before the bar of public opinion. We seem at present to be a profession peevishly scolded, criticized as reactionary, suspected of keeping back invaluable secrets, callous to the poor and the underprivileged—a monopoly in restraint of trade.

The members of the Academy of Medicine have risen to their present prominence in this community because in spite of little jealousies among ourselves, each man put forth his best as an individual, and hoped always to be rewarded by individual recognition. As a result, people of all classes have reaped the reward of our individual striving. There is no other force on earth that could call forth such efforts.

We know that as a result of his education and training, the doctor is psychologically conditioned to heal. His greatest satisfaction lies first and foremost in healing. The will to heal becomes part of him. On the other hand, there is developed in the patient who has freedom, individual responsibility and rewards, the will to get well. Bring these forces together—the will to heal and the will to get well—and you have the power that has made American medicine great. Take away, under bureaucratic supervision and interference, the will to heal, and take away, with liberty, the will to get well and

replace it with the will to malingering—and the result is government medicine

In the study of disease and in the medical care of the individual, whether preventive, curative, or palliative of incurable disease, medicine has been in part socialized for a long time—using the word to imply the use of tax funds to pay doctors for the work they do. We agree that much of it, especially in public health work, in the care of the insane, in tuberculosis, etc., is justifiable. But when the state endeavors to extend its medical activities to accompany the doctor across the threshold of the sick room and place the government's hand on the patient's pulse, and demand a record in triplicate of his ills and possible sins—then organized medicine says "no." Then it is time for medicine to become truly militant.

Let the business man know in no uncertain terms that if the sacred private practice of medicine be socialized, then his taxes are only beginning, and that his business structure itself is next because he is accused also of failure in caring for the "submerged third." Let the press as it recognizes the ultimate dangers to its own freedom, inherent in this manifestation of public policy, come to our assistance wholeheartedly and without hesitation. Let the fathers and mothers whom you have served so well be roused from their apathy, and straighten out their sense of relative values. Let the lawyers join in, for if there are to be no individual rights, what need will there be for lawyers? And what say the clergy?

Go to the people and be not afraid. Do not, however, assume that the people know what you have done, and will never desert you. Let the medical society, if it has to, peddle from door to door the priceless things that the private practice of medicine has given them in the past. The people themselves are not asking for a change. The simple fact is that the results obtained in America under this system far exceed, by whatever standards measured, those secured in any other country whose methods we are now asked to copy.

Why is medicine now being used as a

'whipping boy?' Is it really at fault? Or does the fault lie deeper? Let us make a possible diagnosis, and suggest treatment.

We are living in an age of tremendous unrest and change. Formidable forces are at work with devastating rapidity. New instrumentalities of science and invention are transforming our lives. Our efforts to keep our place in the modern and bewildering parade have left too large a portion of our people confused, frustrated, insolvent, and, I fear, rebellious. Government has attempted to relieve and to stem this flood of dissatisfaction with sandbags of money. If the flood rises, other sandbags, made of the practice of medicine will be thrown in, and others can be made.

All is changing but man himself. In the mass he is essentially as he was centuries ago, and as one index of his struggle, we have the record of over 55 per cent of our hospital beds in the United States occupied by the insane. This is indeed a choice indictment. If this gives any indication of our future trend, we must quickly decide whether the happiness of man, or his prosperity, should be our goal.

The problem, as I have said, is man himself—the comparatively unchanging, limited human being. The doctors' problem is how to keep him sane and contented in the future. To center on material prosperity alone, and to assume offhand, that the majority of men have the power of unlimited rational adjustment to these ever increasing complexities of life, is to court disaster. With the possible exception of a small percentage, man has no such power, and he automatically will escape when any situation becomes intolerable.

As an individual he will escape with alcohol, with repudiation of obligations, even with suicide. In the mass he will escape with calm repudiation of all debts, as we witnessed in Europe, or turn to a dictator when his load of responsibility becomes too heavy. But escape he will, even though he pull our pretty house down, and even though his apparent rem-

# The Woman's Auxiliary

To the Medical Society of the State of New York

## Albany County

The Woman's Auxiliary to the Medical Society of the County of Albany held its annual luncheon and meeting at the Albany Country Club on December 13, 1938. Mrs. Albert Vander Veer presided and welcomed the members and guests among whom were Mrs. G. Scott Towne of Saratoga, president-elect of the Woman's Auxiliary to the Medical Society of the State of New York, Dr. Otto Faust, president of the Medical Society of the County of Albany, and Dr. James Lyons, president-elect.

Mr. Dwight Anderson, Director of the Public Relations Bureau of the Medical Society of the State of New York, was the guest speaker and had as his topic "What Every Woman Knows."

## Nassau County

The annual meeting of the Woman's Auxiliary to the Medical Society of the County of Nassau was held in the auditorium of the Nassau Hospital, Mineola, L. I. on December 27, 1938. Mrs. Luther Kice was elected president and Mrs. Arthur C. Martin first vice-president. The Auxiliary voted to give each high school in Nassau County one year's subscription to *Hygeia*. After the business session the members enjoyed a Christmas party. Mrs. Lally was hostess.

## Onondaga County

The first meeting of the Woman's Auxiliary to the Medical Society of the

County of Onondaga was held in the recreation room of University Hospital on January 10. Mrs. Winthrop Pennock, newly elected president presided. Dr. Lopo de Mello of Buffalo was the guest speaker. A social hour followed the business session.

## Queens County

The first meeting of the year of the Executive Board of the Woman's Auxiliary to the Medical Society of the County of Queens was held in the Medical Society Building on January 3. Mrs. William Lavelle greeted the members and asked for the co-operation of each member in order that the Auxiliary may carry on its work successfully. Plans and programs for the year were discussed.

## Kings County

Our president, Mrs. Daniel Swan, was a guest at the installation of officers of the Woman's Auxiliary to the Medical Society of the County of Kings, held in the Medical Society Building on January 10.

---

## ANNOUNCEMENT

The next meeting of the executive board of the Woman's Auxiliary of the State of New York will be held in Albany at the Hotel Ten Eyck on February 16, at one o'clock.

---

## MILK ESSENTIAL IN A REDUCING DIET

One of the main ingredients of a successful reducing diet is a pint of milk daily, E. M. Geraghty, Baltimore dietitian, points out in her article, "Reducing Diets," in the January issue of *Hygeia*.

Often when a person decides to reduce his weight, he eliminates milk as one of the first

items, because he erroneously believes it is fattening. This is not true, the author indicates. Instead, it furnishes needed vitamins and minerals for repairing body tissues.

A pint of whole milk, skimmed milk, or butter milk or the equivalent should be averaged for daily intake, but butter, cream, and other fats should be kept at a minimum.

# Medical News

## **Allegany County**

Dr Jasper W Collier, of Wellsville, who died on December 29 at the age of eighty six had practiced medicine there for fifty-eight years. He was a former president of the Allegany County Medical Society.

## **Broome County**

An interesting address on 'Higher Types of Pneumonia' was given before the Broome County Medical Society on January 10 by Dr A D Langmuir, Assistant Director, Bureau of Pneumonia Control, New York State Department of Health. He discussed the use of rabbit serum, sulfanilamide, and other refinements in modern treatment of pneumonia.

## **Cayuga County**

The following officers were elected at the annual meeting of the Medical Society of the County of Cayuga, December 15, 1938: president, Louis F O'Neill, Auburn, vice president, H Donald Stuard, Genoa, secretary, Stephen J Karpenski, Auburn, treasurer, Robert J Thomas, Auburn, delegate to state convention, Harry S Bull, Auburn, alternate, Asel J Bennett, Auburn, delegate to 7th district branch, Donald M Green, Auburn, alternate, Walter B Wilson, Auburn, board of censors, Lillian A Treat, Auburn, Asel J Bennett, Auburn, Howard I Davenport, Auburn, Frank L Okoniewski, Auburn, Roland J Walker, Auburn.

The guest speaker was Judge Richard C S Drummond. His subject was "Old Auburn," and he gave an interesting talk on the founding of the settlement by Col John Hardenburgh, which later developed into the City of Auburn. He also complimented the society on the historical data it has amassed, one of the most complete collections in the state.

## **Chautauqua County**

The annual election of officers of the Chautauqua County Medical Society on

December 14 resulted as follows: president, Dr DeF W Buckmaster of James town, vice president, Dr Harry E Wheelock of Fredonia, secretary, Dr Edgar Bieber of Dunkirk, treasurer, Dr Frederick J Pfisterer of Dunkirk, Dr Clive E Hallenbeck of Dunkirk, the retiring president, presided. A lecture on head injuries was delivered by Dr Robert P Dobbie of Buffalo.

## **Chemung County**

The Chemung County Medical Society, in co-operation with the Elmira Council of Social Agencies, is making an exhaustive survey to determine the needs and extent of medical and dental care throughout the county.

Questionnaires have gone to physicians, dentists, hospitals, industries, schools, public and private relief agencies, pharmacists, and lodges.

More than 500 information sources will be contacted in the survey, to be conducted in connection with the national movement of the American Medical Association.

The survey will seek to obtain a composite picture of the adequacy of medical and dental services. Co-operation of those to receive schedules is requested by Dr Elliot T Bush, president of the County Medical Society, in a letter accompanying the questionnaires.

## **Chenango County**

The following officers were elected for 1939 at the annual meeting of the Medical Society of the County of Chenango on December 13: president, Don U Gould, Sherburne, vice-president, Mat G Boname, Oxford, secretary-treasurer, John H Stewart, Norwich, legislative committee, George I Manley, Norwich, economics, Edward Danforth, Bainbridge, public health, Albert H Evans, Guilford, maternal welfare, Eugene A Hammond, New Berlin. Dr Stewart has served as secretary and treasurer since 1917. At the scientific session a review

of recent literature on "The Use of Sulfanilamide" was presented by Dr Lyster Professor F J O'Connor of the Syracuse Medical College discussed "Otitis Media in Children "

### Clinton County

At the monthly meeting of the Clinton County Public Health Nursing committee of the Board of Supervisors, Dr Elmer Wessell, recently elected president of the Clinton County Medical Society, spoke on the care of the expectant mother and the unborn child

In presenting the problem, Dr Wessell said "It is common knowledge that Clinton County has the highest per capita birth rate and it has also fallen heir to the highest infant death rate in the State of New York

"If this state of affairs is not necessary, it is abominable, and some attempt should be made to try to correct it, not for the sake of the figures, and the position of Clinton County, but because these figures mean that prospective mothers and the prospective children do not even get as good a chance as the worst in the rest of the state It means that our wives and future children have less chance of making the grade in confinement and birth than those living under the physical and educational environment at its worst elsewhere The problem and the challenge to us and to the general public, the medical profession, hospitals, town and county organizations, is to do something to improve this sorry circumstance "

### Cortland County

Dr Merle R French, county health officer, was elected president of the Cortland County Medical Society at the annual meeting held at Cortland Free Library on December 16

Other officers elected for the year are Dr Robert Fairchild of Marathon, vice-president, Dr D R Reilly, re-elected secretary, and Dr B R Parsons, treasurer Members of the board of censors are Dr Hugh Frail of Marathon, Dr J E Wattenberg, Dr F F Sornberger, Dr C E Chapin, and Dr A M Loope

Dr Reilly was elected delegate to the New York State Medical Society Dr William A Wall was elected alternate

### Erie County

A warning to physicians that their economic destiny depends upon their success in the coming year in working for "free choice of physician and less practice of medicine by hospitals" was sounded by Dr Harry C Guess, retiring president of the Medical Society of the County of Erie, in his farewell address at the society's meeting in Hotel Statler, Buffalo, on December 19

"Free choice of physician and less practice of medicine by hospitals must be our aim, not alone in staff room talk, but in fact," Dr Guess said "It behooves every member to give this some thought

"Regarding the care of the certified medical indigent, we will be on the spot, and many, not too friendly, will watch with particular interest the working of our plan

"Each member of this Society must remember that he is acting for the whole profession as well as his own livelihood

"Free choice of physician is the crux of our future destiny Lose that and we lose all

"Indigency is here to stay, let us do our part as always, for the care and comfort of the unfortunate By the same token, we should not play ostrich when some with a socialized think-tank would classify us as everything but what we are "

The following officers were elected for 1939 president, Carlton E Wertz, Buffalo, first vice-president, Herbert E Wells, Lackawanna, second vice-president, Nelson W Strohm, Buffalo, secretary, Louise W Beamis, Buffalo, treasurer, Roy I Scott, Buffalo, board of censors Harold F R Brown, Buffalo, E Dean Babbage, Buffalo, Joseph D Godfrey, Buffalo, Frank Meyers, Buffalo, Charles W Bethune, Buffalo Joseph C O'Gorman, Buffalo, was named chairman on legislation, John D Naples, Buffalo, public health, Harvey P Hoffman Buffalo, economics, and Allen R Long,





next extra Sunday or holiday and so on down the list.

A call to any doctor's office will be relayed to the one in town

### Kings County

These officers were chosen for 1939 at the annual meeting of the Medical Society of the County of Kings on December 20 president-elect, Daniel A McAteer, vice-president, Albert F R Andresen, secretary, Thomas B Wood, associate secretary, Benjamin M Bernstein, treasurer, Maurice J Dattelbaum, associate treasurer, Benjamin Koven, directing librarian, Jaques C Rushmore, associate directing librarian and curator, Edwin P Maynard, Jr, trustees for five years, Charles A Anderson, John J Masterson, John B D'Albora Dr Philip I Nash, president-elect, became president on January 1, and will be succeeded next year by Dr McAteer

The program at the scientific session included

Address "The Diagnosis and Management of Breech Presentation and Delivery," Norris W Vaux, M D, Philadelphia

Address "The Diagnosis and Treatment of Menorrhagia and Metrorrhagia," Joseph L Baer, M D, F A C S, Chicago, Ill

The South Brooklyn Medical Society held its twelfth annual meeting on December 8 at Felzmann's, 39th St and 4th Ave Eighty-five physicians held a scientific session, elected officers for 1939, and feasted on beefsteak Dr Harold T Hyman, Dr John J Hauff, and Dr Lowell B Eckerson provided the speeches for the scientific program The officers elected were Dr L Walter Pearson, president, Dr George Sheehan, vice-president, Dr Julius Schlein, secretary, Dr J Parker Talmadge, treasurer, S Peter Barracca, counsel The beefsteak supper was served through the courtesy of William Neegaard, South Brooklyn pharmacist

Seventy physicians attended the December meeting of the Ridge Boro Medical

Society at the Shore Road Hospital Dr M C Myerson and Dr M S Ittleson provided the subject of discussion for the scientific session

The business session included election of officers and committees for the coming year, discussion of community economic and welfare conditions, selection of topics and speakers for the scientific sessions, and reports on the annual dinner dance and reception which is to be held at the Murray Hill Hotel on February 18 Part of the proceeds of the dances is to be donated to the Physicians Home of New York

The election of officers resulted as follows Dr William Ostrow, president, Dr Moses Silverman, vice-president, Dr Robert Princer, treasurer, Dr Ermente Torregrossa, recording secretary, and Dr Marcus Wiener, corresponding secretary

In recognition of his thirty years practice as a physician and surgeon in the Saratoga and Bushwick sections, Dr Philip E Smith, of 705 Macon street, was given a testimonial dinner, Wednesday evening, January 18, at the Hotel Martinique, 33rd Street and Broadway, Manhattan Members of the surgical staffs of the hospitals with which Dr Smith is affiliated, including the Bushwick and Evangelical Deaconess Hospitals, arranged the affair Assisting were a legion of his friends active in fraternal, veteran, and social circles

### Madison County

In spite of vigorous protests by the officers and members of the Madison County Medical Society and by representatives of the Home Bureau units, Stockbridge Valley P T A, organized labor, Madison County League of Women Voters, county dependent children's committee, and Madison County Tuberculosis and Public Health Committee, the appropriation for continuing the public health nursing service in 1939 was eliminated in December by the county Board of Supervisors

Dr Richard B Cuthbert, Canastota, president of the Medical Society, said that

the Society was in deep sympathy with economy, "but we do not feel it is economy when its starts with public health. That is false economy. To eliminate the service means that expenses of welfare, hospitalization, pneumonia campaign and treatment of tuberculosis will be increased."

Dr Lynn B Chase, Morrisville, Chairman of the County Public Health Nursing Committee, said "Loss of the nursing service would put the public health program back twenty five years." As to tuberculosis work, he said "It means the work will revert back to where only advanced cases are discovered. It is hard for physicians to diagnose early stages of the disease without the x ray. This has been done through the clinics. It also means no patients will be returned from hospitals as cured. Patients will also be obliged to look after their own care or that which the Welfare Department will give."

The nursing committee was organized in 1932. It went out of existence December 31.

Clinics to be given up because of no nurses to assist, according to the committee's statement, are Tuberculosis, toxoid for immunization against diphtheria and small pox, maternity, prenatal, preschool, nutrition, vaccinations, orthopedic, mental, child guidance, social hygiene, group education, and pneumonia control.

### Monroe County

Dr Clarence V Costello was made president of the Medical Society of the County of Monroe as successor to Dr Leo F Simpson at the annual meeting on December 20.

Other officers elected are vice president, Dr Albert D Kaiser, secretary, Dr William A. MacVay, and treasurer, Dr John J Rooney. Serving with the officers on the board of governors will be Drs Warren Woodin, Benjamin J Slater, Joseph P Henry, John J Finigan, and Edward G Whipple. Drs Paul Beaven and H C Soule were named members of the Medical Milk Commission.

Dr E T Wentworth, reporting on a study being carried on concerning non-profit medical care insurance, said the county society will co-operate with the State Medical Society in seeking amendments to the insurance laws to provide for medical care through insurance.

He declared the physicians are not going to be stampeded by talk of compulsory health insurance—that a program will be worked out.

Guest speakers were Dr William A Groat, of Syracuse, president of the State Society. Dr Peter Irving, secretary and general manager, and Dr Joseph Lawrence of Albany, executive officer.

Rochester needs a permanent eye clinic for poor children and others who are unable to pay.

This declaration is made by Dr John F Gipner, chairman of the committee on eye defects of the County Medical Society. He said the \$2,000 authorized by the city to pay the cost of 1,000 children's eye examinations is inadequate. Continuing, he said:

"During the past year the County Medical Society for the fourth year in succession made a contract with the city government to examine the eyes of 1,000 indigent school children referred by Health Bureau nurses.

Seventeen physicians engaged in this service completed December 1, and already the hospital eye clinics report a growing waiting list for appointments.

It is evident that the present eye-clinic service cannot meet the need and therefore the need for a permanent, rather than an emergency plan, is being called to the attention of the city manager, the health officer, and the commissioner of public welfare."

Plans for a medical museum in the new building of the Rochester Academy of Medicine are in process of formation. Committees have been formed to develop divisions dealing with rare books and documents, plastic and graphic arts, instrument making and historical development, and pathologic anatomy. Courses

of instruction for the committees have been arranged with the librarians of the city, and the university and the Rochester Museum of Arts and Sciences is co-operating. The academy wishes especially to compile the medical history of Monroe County. Dr Morris E Missal is secretary of the museum committee.

### Montgomery County

The following officers were elected for 1939 at the annual meeting of the Medical Society of the County of Montgomery, held December 14, 1938: president, Lew H Finch, Amsterdam, vice-president, Seymour L Homrighouse, Amsterdam, treasurer, Roger Conant, Amsterdam, secretary, William R Pierce, Amsterdam, censors, Robert C Simpson, Amsterdam, William H Seward, Amsterdam, William R Rathbun, Canajoharie.

Says the *Amsterdam Recorder Democrat*: "The re-election of Dr Pierce recalls that for thirty-five years he has served the society as secretary in a thorough and efficient manner, his painstaking efforts being in a large measure responsible for the success of all undertakings of the society and prominence given activities of the organization. Dr Pierce richly deserves the fine appreciation his colleagues always express in return for his constant labors well done in the office he has held so long."

### Nassau County

The Nassau Surgical Society met at Meadowbrook Hospital on January 9 and listened to the following program: 1 Case Reports (a) Total Colectomy for Carcinoma and Polyposis, C A Hettesheimer, M D, Discussion opened by M R Jackson, M D, (b) Congenital Stenosis of the Bile Ducts, C A Hettesheimer, M D, Discussion opened by J W Bulmer, M D, (c) Horseshoe Fistula, G L Fair, M D, Discussion opened by E W Barber, M D, (d) Extensive Avulsion of Skin, Muscle and Bones of Foot, G L Fair, M D, Discussion opened by W L Sneed, M D, (e) Foreign Body in the Intestinal Tract, J B Conolly, M D, Discussion opened by C B Corbett, M D.

2 Paper Osteomyelitis of the Skull and Brain Abscess, J E J King, M D.

### New York County

The New York County Medical Society, at its December meeting, adopted a resolution indorsing the Burke bill to provide salaries of \$680 a year for the 500 or more interns in the city hospitals.

The resolution, adopted by a more than two-thirds majority, put the society on record to "indorse the Burke bill for interns, prevail upon the co-ordinating council to have other county societies in the greater city to pass similar resolutions of indorsement, and employ its good offices in persuading the Council, Board of Estimate and the Mayor to carry into life this adopted principle of the society."

Interns in city hospitals now receive only \$15 a month and maintenance.

Dr Roy Graham Hoskins, of the Harvard Medical School, will speak on "The Story of Mental Diseases" at the New York Academy of Medicine on February 9 at 8 15.

Dr Eugene F Traub addressed the Society of Medical Jurisprudence at the New York Academy of Medicine on January 9, on "Dermatology in Court."

Dr Louis I Harris, formerly Health Commissioner of New York City, died on January 6 at the age of fifty-six. He founded the department's division of Industrial Hygiene.

Dr George Van Ness Dearborn, a neuropsychiatrist who for many years was connected with the Veterans' Administration, died on December 12 of a heart attack. He was sixty-nine years old.

Dr Henry W Berg, an authority on diphtheria and smallpox, died on December 22 at the age of seventy-nine. He had practiced medicine in New York City fifty-seven years.

Dr Henry B Cogswell, who had practiced medicine for fifty-five years, fifty

of them in New York City, died on Thursday, January 5, of a heart attack at 229 West Seventy eighth Street, where he lived and had offices. He was seventy seven years old. He was active until the day before his death, having treated a number of patients in his office on Wednesday.

### Niagara County

The following officers were elected for 1939 at the annual meeting of the Medical Society of the County of Niagara, held in Lockport on December 13, 1938: president, Harley U. Carmer, Lockport; vice-president, Robert P. Reagan, North Tonawanda; secretary-treasurer, Forrest W. Barry, Lockport. Board of censors: Robert R. B. FitzGerald, Chairman, Lockport; Russel H. Wixson, Niagara Falls; Emil T. Mueller, North Tonawanda. Delegates: Guy S. Philbrick, Niagara Falls; Richard H. Sherwood, Niagara Falls. Alternates: Forrest W. Barry, Lockport; Raymond W. Holt, Niagara Falls. The guest speaker, Dr. Renshaw, of the Cleveland Clinic, described the use of the gastroscope.

### Onondaga County

The following officers were elected for the year 1939 at the annual meeting of the Onondaga County Medical Society held at the Onondaga Golf and Country Club on December 6, 1938: president, Leon B. Sutton, Syracuse; vice president, Brewster C. Doust, Syracuse; secretary, Dwight V. Needham, Syracuse; treasurer, A. Carl Hofmann, Syracuse.

The program of the Onondaga County Medical Society on January 3 included the following papers: "Infectious Mononucleosis," Dr. Earle E. Mack, Discussion opened by Dr. Albert A. Getman; "Filtrable Virus Diseases," Dr. Arthur E. Harris, Discussion opened by Dr. A. C. Silverman.

Dr. Brooks W. McCuen was elected president of the Syracuse Academy of Medicine to succeed Dr. D. F. Gillette at a meeting on December 20 in the University Club. Other officers elected

are: Dr. P. K. Menzies, vice president, Dr. Floyd R. Parker, secretary, Dr. C. E. McElwain, treasurer, Dr. S. C. Ruhson, Dr. Mortimer G. Brown and Dr. Carlton F. Potter, trustees, and Dr. Gillette, Dr. Leo E. Gibson and Dr. Clyde O. Barney, council members.

"Collection and Preservation of Placental Blood for Transfusion Purposes" was discussed by Dr. Charles A. Gwynn and Dr. John B. Alsever. An experiment on this line is now being undertaken at Syracuse Memorial Hospital.

Praise for the physicians and nurses of Syracuse for their work in the treatment of pneumonia has been received by Dr. H. Burton Doust, commissioner of health, in a letter from Dr. Alexander D. Langmuir, consultant of the bureau of pneumonia control of the state department of health.

After praising the splendid work done by Syracuse doctors and the Visiting Nurses Association, Dr. Langmuir wrote:

We are now analyzing the records received in the past year and I am sure you will be interested in learning that the standards of pneumonia care in Syracuse are among the highest in the state, as measured by the percentage of cases typed, the amount of serum given and the number of treated cases in which blood cultures are taken."

Dr. Doust said the physicians deserve the lion's share of the credit for this report, although much of the pneumonia control work is co-ordinated by the department of health.

### Ontario County

The meeting of the Ontario County Medical Society on January 10 at the U. S. Veterans' Hospital in Canandaigua was featured by quizzes on "Affections of Skin and Mucous Membranes" and "Sedatives," each lasting forty minutes. The questions were handed in by the members. The leader of the first discussion was Dr. A. M. Crance, of Geneva, and of the second, Dr. Robert J. Stein, of Canandaigua.

### Orange County

Dr H F Morrison, of Tuxedo Park, was made president of the Orange County Medical Society at the annual election on December 13, followed by the selection of Dr Daniel I O'Leary as vice president, and the re-election of Dr Earl C Waterbury as secretary-treasurer. Other elections were Board of censors Drs Edgar Cuddeback of Port Jervis, S B Schleiermacher of Newburgh and Walter Hiresmann of Central Valley, delegates to state society Dr M R Bradner of Warwick and Dr H H Snyder of Newburgh, delegates to first district branch Dr R W Thompson of Cornwall-on-Hudson and Dr Frank Myers of Slate Hill.

More than seventy-five members heard Dr Frederick Elhott of Brooklyn, secretary of the Medical Research Association, speak on "Prepayment for Medical Care by Insurance," a plan similar to the United Hospital Fund. Dr Theodore West of Port Chester, president of the First District Branch, was also a speaker.

### Oswego County

Dr K Wood Jarvis, newly re-elected president of Oswego County Medical society, has called the attention of the members to an address given by Dr Peter Irving, secretary of New York State Medical Society, before the Rotary Club of New York City. In this talk Dr Irving advocated medical indemnity insurance for voluntary prepayment of doctors' bills, as an alternative to state-controlled compulsory health insurance. This expresses the policy of the Oswego county society, Dr Jarvis explained.

At the December meeting of the county society, Dr Jarvis stressed the importance of all physicians being more active as citizens in their respective communities, and taking more interest in civic affairs. There was discussion on methods of improving distribution of medical care, not only to the indigent, but also to the economic middle class, to whom serious illness has become a difficult burden. The present American system of medicine can be retained, and better distribution of care can be given without resorting to

state control, the association members believe.

### Otsego County

The Otsego County Board of Supervisors in December vetoed the proposed appropriation of \$28,000 for additional public health nursing service, after listening to Dr F L Winsor of Laurens, who told them that nearly 90 per cent of the doctors in the county were against it, and that the public health nurses, under the plan, would only instruct the family in what to do for the sick, and would themselves give little or no actual bedside care.

### Putnam County

The new officers of the Putnam County Medical Society for 1939 are as follows: president, Ralph M Hall, Cold Spring; vice-president, Henry W Miller, Brewster; secretary, John T Jenkin, Lake Mahapoc; treasurer, Alexander Vanderburgh, Brewster; delegate, Henry W Miller, Brewster; alternate, E Roberts Richie, Brewster; censors, Garrett W Vink, Carmel, James L New, Carmel, Frank C Genovese, Patterson.

### Queens County

Trustees of the Queens County Medical Society honored their chairman, Dr Edward A Flemming of Forest Hills, with a testimonial dinner at a restaurant in Richmond Hill, on December 15.

Dr Flemming has been a trustee for ten years and has served as chairman of the board for eight years. This was the first time in the history of the board that a chairman has been so honored.

Dr Fleming is a former president of the medical society and of the Queens County Surgical Society.

A demonstration in the diagnosis and treatment of pneumonia is being given at the Queens General Hospital by Dr William Benenson and staff, commencing Tuesday, January 10, and every Tuesday thereafter to and including Tuesday, February 28, between 3 and 5 P M. A

maximum of five registrants are received at each demonstration

### Rensselaer County

The Rensselaer County Medical Society opened its program for the year on December 14 with a dinner at The Hendrick Hudson at which the officers were installed and an illustrated talk on "Surgical Curiosities" was given by Dr John F Erdmann of New York.

The officers inducted are Dr William T Shields Jr, president, Dr Charles W Hamm, vice president, Dr John F Russell, treasurer, Dr Leo S Weinstein, secretary, Dr Stephen H Curtis, Dr John D Carroll, delegates to the House of Delegates of the New York State Medical Society, Dr Clement J Handron, Dr George F Reed, alternate delegates, Dr William Trotter and Dr Charles H Sproat, censors.

Dr Hugh V Foley, outgoing president and toastmaster, acted as installing officer.

### Sullivan County

The medical survey of Sullivan County, made by the County Medical Society, shows that no person is more than seven miles from a physician. Lack of adequate care is only due to failure of patients to use available facilities. As to cost, in one week in 1937, 17 per cent of the patients who received any form of medical service in home or office were treated entirely without charge, and thirteen free surgical operations were performed.

### Tompkins County

The following officers were elected at the annual meeting of the Tompkins County Medical Society, December 20, 1938: president, Hudson J Wilson, Ithaca, vice-president, Harry G Bull, Ithaca, secretary treasurer, Willets Wilson, Ithaca, delegate, Norman S Moore, Ithaca, alternate, Leo P Larkin, Ithaca, censors C Stewart Wallace, Dryden, H L Van Pelt, Ithaca, David Robb, Ithaca, John F W Allen, Ithaca, J Wesley Judd, Ithaca.

Mr Carl Snavely, football coach at Cornell University, showed technicolor movies of the Dartmouth Cornell and Columbia Cornell football games.

Buffet lunch was served.

### Warren County

That Warren County has an infant mortality rate of fifty five per 100,000, or an average of twenty deaths per 100,000 over the general state rate, was revealed by Dr Morris Maslon, director of the Warren County health activities, at a meeting of the Board of Supervisors on December 19.

Dr Maslon attributed the condition to lack of supervision and education of the public and said that a reduction of this rate is one of the main objectives of the 1939 county health program.

An increase in the treatment of communicable diseases such as tuberculosis, syphilis, cancer, and pneumonia was reported and an even more strenuous program was outlined for this year.

Dr Arthur W Chapman was elected president of the Glens Falls Academy of Medicine at a meeting at the Crandall Library on December 30.

Other officers elected are vice president, Dr J Leonard Byrnes, trustees, Dr Harold Peck and Dr Edgar Birdsall, committee on admission, Dr Stanley L Edmunds, Dr John Canaday, and Dr Saul Yafa, committee on public relations, Dr Leonard A Hulsebosch, Dr James Shields and Dr Dwight M Sawyer, library committee, Dr John Griffin, program committee, Dr William W Bowen, Dr Irving Juster, and Dr Morris Maslon.

The secretary treasurer is elected for five years and Dr William Bowen was elected to that office last year.

### Westchester County

Four important scientific presentations are being given at the regular meetings of the Westchester County Medical Society. On January 17, Dr Byron Stookey presented a paper on Herniation of the

Nucleus Pulposus," a clinical study with lantern slides Discussion of Dr Stookey's paper was opened by Dr Joseph E J King of Bronxville

On February 21, Dr Samuel A Levine of Boston will offer a paper on "The Value of Auscultation of the Heart "

On March 21, Dr A H Aaron of Buffalo will address the Society on "The Treatment of Selected Gastrointestinal Conditions from the Viewpoint of the General Practitioner " Dr Aaron, who is the president of the Buffalo Academy of Medicine, presented this same paper last spring before the Ontario County Medical Society and it was called one of the greatest presentations ever given be-

fore that Society Dr Aaron also presented the same paper last summer at the seventh annual summer meeting of the Medical Society of Chautauqua County at Chautauqua Lake on a special program in which he was followed by Dr Menninger of Kansas and Dr Lahey of Boston

In April, Dr Perrin H Long of The Johns Hopkins Hospital, Baltimore, will address the Society on "Sulfanilamide," a subject in which Dr Long is nationally recognized as a leading authority This meeting will be held on April 18

All these meetings are at New York Hospital, Westchester Division, on the third Tuesday of the month

#### SUCCESSFUL WEIGHT REDUCTION OF 239 POUNDS

How a 32-year-old woman reduced from 395½ pounds to 156½ pounds in twenty months by dieting, with "progressive improvement in health," is related in the *Journal of the American Medical Association*

The woman had reached a top weight of 402 pounds before she underwent treatments at New York's Medical Center of Presbyterian Hospital, 168th St and Broadway

In addition to the diet, which permitted her a wide variety of nonfattening foods, the only treatment administered by Dr James J Short, of 502 Park Ave, was a daily dosage of thyroid extract.

Because of the 239-pound reduction in weight, an "apron of skin" was left over the woman's abdomen, Dr Short pointed out, adding that this excess skin, measuring 24¼ by 12¼ inches and weighing 5½ pounds, was removed by surgery

"The patient's health remained excellent throughout the entire period of reduction," declared Dr Short, assistant clinical professor of medicine at the New York Post-Graduate Medical School of Columbia University "At no time did she complain of hunger or weakness "

The secret of his success, Dr Short indicated, lay in the correct and varying dosages of thyroid extract, which he determined by mathematical computation of the woman's "total heat production," or energy output

Doctors, treating overweight patients, often consider only the person's "basal metabolism," which relates to heat production per unit of body surface, Dr Short said

It is essential, he asserted, that the area of the patient's body surface be taken into consideration in administering the thyroid extract

"The extent to which the metabolism rises depends on the degree of overweight and the consequent increase of surface area," his report stressed

For the guidance of other physicians, Dr Short presented a chart outlining his metabolism studies

"The case would indicate," he said, "that there is no limit in the extent to which excess weight may be removed by submaintenance diets, provided such diets contain adequate protein, minerals and vitamins, together with moderate amounts of carbohydrate

"Dairy products, such as skim milk and cottage cheese, are valuable in providing adequate calcium and phosphorus "

The patient was given no butter or bread and no sugar

Dr Short emphasized that the woman's overweight was not the result of any glandular or other physical disability Her father had been of normal weight, but her mother weighed 300 pounds, and one brother weighed 230 pounds

She was under Dr Short's treatment from March 22, 1935, until November 17, 1936

There was no scurvy in the Italian Army during the Ethiopian campaign, according to official reports Every soldier was given a lemon a day Ethiopian forces, on the other hand, are said to have had 30,000 cases

# Hospital News

## Million Volt X-ray for "Resistant" Cancer

**A** NEW x ray outfit, small enough for installation in existing hospital buildings, but designed to operate at 1,000,000 volts has been completed by the General Electric Company at Schenectady, for cancer research at the new Memorial Hospital building at Sixty Eighth Street and York Avenue, New York City. This new kind of x ray tube, equal to \$90,000,000 worth of radium, is the result of discovery of a new electrical principle, say reports from Schenectady.

The tube was made for treatment of human cancer, but is also designed for industry, and gives both a new tool in cancer it furnishes an amperage, or volume of current, far in excess of any thing previously known.

For industry it is the first of these million volt giants that can be carried on a truck. Such rays, useful for looking through steel, have been available only for "jobs" which could be transported to them.

But the million volt "eye" could be backed up to a structure like the Empire State Building, or taken inside and could look into the interior of the huge steel, concrete, and stone foundations that carry the load of the world's tallest skyscraper.

### Effect Unknown As Yet

The tube was built by scientists of the General Electric Company's research laboratory for installation by the General Electric X ray Corporation. It will be placed this spring in the new \$4,000,000 Memorial Hospital, now nearing completion. This hospital is designed to be the world's most completely equipped cancer institute.

The director, Dr. James Ewing, one of the nation's ranking cancer scientists, says that the great amperage will be useful to try on "resistant" types of cancer. "No one," he explained, "knows what the effect will be because no such amperage has been available."

The completed tube is a steel pill box, less than a man's height, with a lead tail projecting from its bottom. This tail is the lower end of a lead-encased bottle, which is the vacuum tube in which the rays are made. The bottle is 4 feet 8 inches long, much of it housed inside the pill box. The tail is the working end, where the rays come out for human use and industrial photography.

The new electrical principle enables this tube to use ordinary low frequency current. That is it could be plugged in on an ordinary sixty-cycle electric light socket. Previous tubes have required high frequency current, needing bulky apparatus to transform the power.

### Old, Yet New

This one is really an old fashioned transformer, built on a new idea. Inside are more than 100 thin, flat coils of wire, built like huge pancakes with holes in their centers. They are stacked around the bottle-shaped tube.

In the old transformers the space occupied by the tube had to be taken up by a solid iron core. The core is eliminated by a new principle of balancing the number of coils with the frequency, that is, number of cycles per second, of the electric current used.

The result is a tube whose total weight is 4,000 pounds. Gone are hundreds of pounds of iron, thousands of pounds of the lead formerly needed to shield the tube and 12,000 pounds of oil which used to be required as insulation inside such a transformer. The oil is replaced by 100 pounds of the same gas used in mechanical refrigerators.

The first giant tube, ten years ago, developing only half a million volt x-rays, at California Institute of Technology, was nearly three stories high. In 1933, General Electric made an 800,000 volt tube which required a room 62 feet long, 32 wide, and 30 high.



## When the Lights Go Out

**WHAT THEN?** How many hospitals are ready with emergency lighting? One of the leaders in hospital administration recently brought this vital point to the attention of the editor of *Hospital Management*, who declares this matter "should receive the attention of every administrator who has not yet made provision for an alternate source of light in case of power failure" We all know, he adds, that this emergency may arise, and fear that we may have a patient in the operating or delivery room for whom treatment cannot be interrupted Yet many have failed to provide any emergency lighting because they cannot afford the more elaborate equipment This course of action cannot be justified There is more than one way of solving the problem

### Portable Lights

1 Candles and coal oil lamps Candles can always be used and in some locations coal oil lamps are available Both have the advantages of economy but neither can be used in operating and delivery rooms or in the emergency department because of the danger of explosion They are, however, serviceable in wards

2 Lights operated by dry cell batteries I do not mean the ordinary flash-light because the small battery plays out too quickly There are, however, larger lights operated by the standard dry cell which give a good light for quite a long time They are suitable for operating and delivery rooms and for the emergency department if no better light can be provided If supplied, they should not be neglected They should be frequently inspected, at least three should be provided where two are necessary and there should be a supply of dry cells quickly available for changing The reasons for these precautions are obvious

3 Portable lights operated by storage batteries These are next in increasing value of service I do not

agree with those who advise comparatively high voltage for such outfits The essential points are that the light is of correct power for the battery and that reflectors are of proper type, kept clean Precautions to be taken are similar to those for dry cell lights They should be inspected frequently and there should be a surplus of outfits for standby In addition there should be provision for recharging the storage battery This may be done in the hospital or, with the universal provision for recharging auto batteries, it may be safer and cheaper to use a regular recharging service

### Central Systems

4 Central system energized by storage battery This is an elaboration of the portable system discussed in the preceding paragraph A central set of batteries furnishes the voltage required and the current is carried to the points selected by a standard system of wiring The system should be equipped with a recharging device and a voltmeter An automatic switch puts the system into operation in case of failure of power

5 Central generator plants There are so many of these that any detailed discussion on this page is impossible They vary from the large steam-driven plant to gas-powered equipment, the water wheel and the windmill type. Most have the advantages that many areas can be lighted at small cost, the plant can be run for an indefinite period in case of a long shutdown of the main source of power, and most of them can be automatically switched on Their initial cost is not so great as is generally thought. Look into the possibility of one of these sources of emergency lighting with a local dealer

The above is written merely to direct attention again to this important matter I hope in the near future to present a full discussion of the whole subject by an expert, lighting engineer

## Now a "One-Cent-a-Day" Nursing Plan

**A**ND all the other "plans" to pay hospitals and doctors at a few cents a day, Westchester County is shaping a plan to provide home nursing at \$3 a year per family, or a shade under one cent a day. Charles F. Neergaard, hospital consultant of New York City, tells about it in the *Modern Hospital*. It sprang from a gathering of leading spirits from various parts of the county, and is the fruit of more than a year of investigation, consultation, and constructive thought.

The program is tentative but, based on exhaustive findings, it is like this:

### The Program

1 To offer a family membership with service to all members irrespective of age

2 To limit service to patients attended by a private physician, which should effectively control abuse

3 To furnish care to maternity patients for all illness irrespective of the stage of the disease

4 To provide ten visits per family at an annual family subscription rate of \$3 a year (based on an average estimated need of two visits per year at \$1.40 each, plus administrative costs)

While the study indicates that the group plan applied to visiting nursing is needed, is desirable, and probably would be saleable, it has been felt from the beginning that it would be practical only if organized and offered to the public on a family basis as an extension of the benefits of the group hospitalization plan.

While the plan for visiting nursing service has not been officially presented to the trustees of the Associated Hospital Service, its director has participated in and several of its executives have kept in touch with the study, endorsed its objectives, and discussed ways and means of carrying out an experimental program to test its practicality.

To further the plan the Westchester County Nursing Council has been incorporated with a board of trustees composed of representatives of the various

visiting nurse agencies who will furnish the service as required.

### What the Doctors Think

The secretary of the county medical society writes:

"The report and its conclusions have aroused a marked interest in the program on the part of all members of the Comitia Minora and an equally strong realization of the far reaching importance of your program and the potential benefits of a successful trial of the idea. In view of the importance of this proposal and the desirability of its receiving the most careful consideration, the Comitia Minora desires to devote considerable time to the study of this project through a special committee to be appointed in the immediate future." At its September meeting the society approved of the plan for the purpose of an experiment and requested the cooperation of its members.

### As Nurses View It

The private duty nursing group, district No. 13 writes:

Several members of our board of directors have expressed interest and a desire to study the report. We would like to go on record as being interested in any future program which may be outlined as a result of this study."

A public health nursing executive writes:

Aside from the value for its intended purpose it is certainly a most enlightening study of our county work and brings to view many needs. I hope there will be tangible results in better nursing service for the people not only in Westchester but in many other communities."

### Practical Details

Legal aspects are being investigated and a joint committee representing the nursing and hospital interests is to consider the many practical details that must be settled before it can be determined whether such a group prepayment plan can be offered to the public.

We are plowing a new field there are

many unknown factors, and definite actuarial figures are essential to any general adoption of the plan. It is the hope that, with Westchester County as a proving ground, a year's experiment

may be carried on with 5,000 of the 22,000 families, now members of the 3-cents-a-day hospital plan, to yield definite facts on demand, use, cost, and value of group prepayment nursing in the home.

## Can the Very Small Hospital Be Justified?

SOMETIMES it can, but sometimes it is a menace, replies *Hospital Management*. "It is not the bed capacity which makes a hospital," the editor declares, "but rather the efficiency of the service it can render."

If it is to claim that it is a hospital, he goes on to say, there are certain prerequisites which cannot be ignored and among the first of these is laboratory and x-ray service. Modern diagnosis and treatment of any but minor disease conditions demand facilities and personnel in these specialty departments which are not economically possible in the very small hospital. If communication with a large center is good, this difficulty can be partially overcome, but the minimum that a hospital must have locally is a properly qualified technician for these departments.

Of even greater importance is the personnel. Nurses would, of course, be all graduate and, regardless of the number of beds, we think we are being conservative when we state four as a minimum if the institution is to function as a hospital. As a rule, nurses of experience will not go to the small community, but we believe the nursing profession will furnish the supply if such institutions are established only where there is an acute need.

### The Greatest Problem

The greatest problem is the medical staff. The community which needs a hospital of less than twenty-five beds usually has only one or two physicians, but a surgical team for major surgery requires three physicians, an anesthetist, a surgeon, and an assistant. From the point of view of competence, the physician

in so small a community is not justified in attempting major surgery. He may have the best of training and may keep up-to-date in his theory, but he cannot have the continued and consistent practice which gives the necessary dexterity and judgment.

It is quite true that these principles are often ignored in the larger community but this does not negative the fact that they are right and should be observed.

Undoubtedly there are many isolated communities having a scanty population in which some provision should be made for the care of certain types of illness, and it will require a great deal of professional honesty and strength of character to limit service to that type of patient whose best interest is served by the small local institution rather than by sending him to the large center. This will include many medical cases, ordinary obstetrics, and surgery which is not complicated or extremely hazardous.

### Put the Patient First

Our conclusion, based on experience and taking the above and other factors into consideration, is that occasionally a very small hospital is needed, but the best interests of the patient must be carefully considered in the decision to establish it and in its operation afterward. It is more than a first aid station, but it is not a hospital in the modern acceptance of the term. If it strictly limits its work to its capabilities, it will be a boon to the isolated community, but if it is allowed to become overambitious and unscrupulous, it will constitute a definite menace.

## Newsy Notes

New York City hospitals and health are declared by Dr Haven Emerson, of the New York Board of Health, to be without equal anywhere in the world

Dr Emerson, former New York City Health Commissioner, made his claims on Dec. 16 in reply to charges of overcrowding and bad working conditions before the final session of the New York State Temporary Commission to Formulate a Health Program, in the headquarters of the Association of the Bar of the City of New York, 42 W 44th St.

At a previous session, Mary Luciel McGorley, chairman of the health committee of the New York Industrial Council, had charged bad conditions and overcrowding in city hospitals

Fourteen New York city hospitals—public and private—will be serviced this year by a central council of hospital libraries, the first organization of its kind to be staffed almost completely by volunteer workers. The set up is the work of the Junior League of New York in co-operation with the hospitals which will benefit by the services of sixty trained young women who combine a knowledge of the routine of book circulation with the more highly technical grasp of bibliotherapy

In the Mental Health Clinic at Bellevue Hospital, New York City, the staff are now using metrazol in early cases of schizophrenia. "If it should become possible to use metrazol extensively in out patient clinics for early cases of schizophrenia," the report declares, "the result would be to revolutionize the whole treatment of this mental disease which alarmingly fills one-fourth of all hospital beds throughout the country. Such treatments are relatively inexpensive and are far simpler than time-consuming shock treatments with insulin."

An important change in the Associated Hospital Service of Western New York

has been made. While formerly twenty-one days of free hospitalization service were given to patients, with a 25 per cent discount on additional days in the hospital, the allotted period has now been extended to thirty days with an allowance of 33 1/3 per cent granted on the bill for the remaining time that the patient is confined to the hospital

The bequest of \$100,000 to the Tarrytown Hospital in the will of the late Edward Benedict Cobb, former resident of Tarrytown, who died on November 24, must be used for the endowment of beds in the maternity ward for charity patients

Persons close to the hospital expressed regret, after studying the will, that the institution's Board of Directors had not been given some discretion in the use of the \$100,000. A new maternity ward is badly needed

The threatened closing of Oak Mount Sanatorium at Canandaigua has been averted and it will remain open for at least another year

Establishment of a cancer clinic at Oneida County Hospital is recommended by Dr Robert L. Bartlett, superintendent of the institution. Dr Bartlett has informed the board of managers that the new annex contains ample room for installation of x ray equipment, and adequate accommodations for patients before and after treatments

A new respirator has been presented to the Schenectady City Hospital by the auxiliary of General Eugene Griffin Camp, United Spanish War Veterans

The Hudson City Hospital's request for an increase in the day rate for Co-

lumbia County patients from \$3 50 to \$4 50 has been granted by the Board of Supervisors

The late Mr George Doheny of Syracuse, a former president of Syracuse Savings Bank, willed \$147,932 93, which represents one ninth of his residuary estate, to St Joseph's Hospital in Syracuse. Other institutions, which shared equally in the residuary of Mr Doheny's gross estate of \$1,200,000, are Syracuse Memorial Hospital, House of Providence, St Vincent's Asylum, Syracuse Free Dispensary, General Hospital of Syracuse, St Mary's Maternity Hospital and Infants' Asylum, Onondaga Orphans' Home, and Syracuse Home Association.

Justice Cregg of Syracuse has ruled that the gift to St Joseph's Hospital was an outright gift, thereby permitting the hospital to use the bequest for the purposes stated in its charter instead of holding the fund as an endowment and being limited to use of the income for ordinary expenses of maintenance. The institution had made an application for a declaratory judgment that the bequest was an unrestricted gift, indicating at the same time that the hospital board desires to use some of the money for a reduction of a \$175,000 mortgage executed last year.

From now on, a subscriber to a non-profit hospital care plan in the states of Illinois, Missouri, Kansas, and Kentucky will not have to be a stay-at-home to derive full benefit from his membership. He can fall ill in any one of these four states, in any city in which there is a member hospital, with the comforting knowledge that he will be provided with the hospital care to which he is entitled.

The Mississippi Valley conference of nonprofit hospital care plans, organized in Decatur, Ill., on July 30, drew up its interchange care system, and the idea will be submitted to the American Hospital Association convention for possible adoption on a national basis—*Hospital Topics and Buyer*

## Improvements

Utica State Hospital will construct a new printing shop and cold storage plant to cost \$200,000

The Swedish Hospital of Brooklyn will be the sole beneficiary of a three-day-and-night fair and bazaar to be held in the 106th Regiment Armory, Bedford and Atlantic Aves., on February 16, 17, and 18, under the auspices of fifty-one Swedish societies of Brooklyn in particular and the metropolitan area in general. Proceeds of the fair will be turned over to the officers and board of directors of the Swedish Hospital, to be used to complete the reconstruction of the six-story apartment house building at Bedford Ave and Dean St as a new home for the institution.

A \$57,000 addition to the Kingston city laboratory marks the high spot in a WPA winter construction program for that city and Ulster County just announced by Lester W Herzog, State WPA Administrator.

The laboratory was erected in 1936 by WPA and already has outgrown its quarters, so great have been the demands made on it not only by Kingston Hospital but other hospitals of Ulster County.

The addition will be of reinforced concrete and strictly fireproof.

The Board of Estimate of New York City has voted an appropriation of \$75,000 for reconstruction of the children's contagious disease building at the Queens General Hospital.

The action of the Board was taken after Dr S S Goldwater, Commissioner of Hospitals, stated that the present overcrowded quarters "are absolutely dangerous to the lives of the young patients."

Columbia County veterans have started agitation for a Veterans Hospital in that area.

A new nurses' home and female dormitory is to be added to the Neponsit Hospital in Queens

Samaritan Hospital in Troy has a new Cadillac ambulance.

Dr F Dixon Brown of Hobart is building a new hospital to accommodate six adults and two children

Westmount Sanatorium at Troy expects to put in new x ray equipment

Columbus Hospital, New York City, has begun construction work on a new \$100,000 addition Dr Charles R Borzilleri, president and founder of the thirty-year-old hospital, turned the first spadeful of earth The new fireproof wing will contain three operating rooms equipped with the latest facilities new electric elevators, and modernly furnished private and semi private rooms The capacity of the hospital will be increased to 150 beds

## At the Helm

These hospital officials have been chosen

W W Smith to be president of the Malone Hospital Board re-elected

Dr Wayne B Henning, to be medical director of Stony Wold Sanatorium at Lake Kushaqua.

Dr Glenn R Ford, to be president, and Dr Roger D Meod to be chief of the surgical staff, of the Ideal Hospital at Binghamton.

Dr B A Fedde to be president of the Norwegian Hospital of Brooklyn, re-elected.

Dr Charles W Knapp, to be chief of staff of the Greenwich Hospital, reappointed

John G Nelson, to be president of the Lutheran Hospital Association of Brooklyn

Dr E P Russell, to be president of the staff of the Rome and Murphy Memorial Hospitals at Rome.

Dr Gregory L Robillard, to be surgical director of the Brooklyn Cancer Hospital

William H Barber, to be president of the directors of the Glens Falls Hospital

Harry Weinberg to be president of Beth El Hospital, re-elected

Dr F R Driesbach, to be president of the general board of the Dansville Hospital

Dr Robert J Wren to be president of the medical staff of Ossining Hospital

Dr E A Hammond, to be president of the board of managers of Brookside Crest Sanitarium at Sherburne

Mrs Rachael Israel to be president of the Westchester County Hospital Association

John Crane, to be superintendent of Physicians Hospital Jackson Heights

William D Entley, to be superintendent of the Arnot Ogden Hospital at Elmira

Dr Francis Giammatti, to be president of the medical staff of the Tarrytown Hospital

Dr H J Kruckerbocker, to be president of the medical staff of the Geneva General Hospital

Dr Victor A Bacile, to be chief of staff at St. Francis Hospital in Poughkeepsie

Mrs E C Hayward, to be president of the women's auxiliary of the Mount Vernon Hospital

# Medicolegal

LORENZ J. BROSNAN, ESQ

Counsel, Medical Society of the State of New York

## Malpractice-Failure of Proof in Fracture Case

**T**HE highest court of one of the western states very recently passed upon a case which was brought against two physicians charging them with malpractice in the treatment of a fractured arm.\* The fact situation involved presented a typical example of the results which may follow where in a difficult case the full co-operation of the patient is not obtained by the physician.

A six-year-old boy, while playing, fell and sustained fractures of both the radius and ulna of the left arm, and was shortly thereafter taken to a Dr. B. He requested x-rays and suggested that a Dr. A, who maintained a hospital also be called in the case. That day after x-rays were taken, Dr. A assisted by Dr. B set the arm and applied a molded plaster-of-Paris splint, with the arm at about a right angle. X-rays after operation showed good position of bones.

Although advised to leave the child at the hospital, the parent took the boy home the same day. The father was told to get in touch with Dr. B for anything that might be needed. The second and third days after the cast was applied, Dr. B did attend the patient and administered hypodermics for pain. He did not loosen or remove the splint. On the fourth day the child was taken back to Dr. A and the cast was removed. Some blisters were found which were treated and the splint was replaced. Again hospitalization was requested by Dr. A but declined by the father. Finally two days later (six days after original injury) the child was allowed to remain at the hospital under Dr. A's care. While there the splint was removed and the arm dressed and placed on a pillow. There was good circulation and movement in the wrist and fingers. A high temperature receded practically to normal. However,

at the end of forty-eight hours, the father insisted upon taking the patient home, although advised that the patient was not ready for discharge. Dr. A dressed the arm so that he could be moved, and from that time when taken from the hospital, Dr. A saw nothing further of the patient.

Dr. B apparently had little or nothing to do with the case from then on, and in ten days a third physician, Dr. C, was consulted by the parent. From that time he remained under the care of Dr. C and later also of a Dr. S who treated him from time to time for a condition of osteomyelitis which developed. The eventual result was a bad one, involving paralysis and contracture.

A malpractice action was brought on behalf of the infant and the father against Dr. A. and Dr. B in which the charges of neglect were (1) negligence in attempting to set the broken bones, (2) that the flesh was not protected when the cast was applied, (3) that the arm was bound too tightly, stopping circulation, (4) that the cast was permitted to cut into the flesh, (5) that unskillful care of the arm caused it to become diseased and inflamed, and (6) that defendants refused to properly treat and dress the arm.

Upon the trial, numerous witnesses were called on both sides. There was a dispute as to whether the cast when applied was applied directly to the arm or whether it was lined (as defendants contended) with gauze. Of particular importance was the testimony of Dr. S, the orthopedic specialist who finally cared for the child. He said in the course of his testimony

" I was present in the court room when Dr. A testified, and heard his testimony. His testimony indicated proper treatment for the

\* Brown vs. Dark, 119 S.W. (2d) 529

type of injury involved Gauze or padding between the splint and arm is not always used In applying casts in the last eight or ten years, we have been using skin tight casts—a cast which is applied directly to the skin This is well recognized in Europe and this country, and we used it ourselves.

"Q What would you say, Doctor, if there had been no gauze between the splint, and the arm—would you say this is proper?

"A I would say that it would, and has been customary for me to use it in many cases

Volkman's paralysis is a degenerative change which takes place in the muscles and nerves and soft tissues of the arm and results in damage to circulation as a general rule. This paralysis can result from a number of different causes It may be the result of a direct injury to the blood vessels of the arm when the blood supply is cut off to the muscles, this degenerative change occurs following that. It may be due to hemorrhage or swelling within the fascia covering of the arm Muscles and deep structure are cased in a fasciae formation which binds them together It may be due to stricture, due to splinting, or pressure.

"From the condition of the patient disclosed by the testimony and from the condition which I saw on May 10th, I would not be able to tell the original cause of the trouble Assuming the important conditions which have been mentioned in regard to the circulatory condition—presence of radial pulse which indicates blood is being supplied to the parts, and movement of the fingers—I would say that at the time the boy left the hospital there had been no serious or permanent interference, and with proper care from then on, the condition should have improved, and the patient would have recovered. The condition that caused permanent im-

pairment of the arm could have developed after March 12th (the date child left Dr A's hospital) From the testimony of Dr A it is my opinion that this case was handled well by him throughout the treatment of the fracture, both regarding the x-raying of it, the reduction of the fracture, the apposition of the bones, the type of immobilization which was used, and the instructions which were given with regard to the kind of precautions necessary "

The Trial Court permitted the jury to pass upon the case, and there was a verdict and judgment in favor of the plaintiffs from which the defendants appealed. The Appellate Court reversed the ruling below and directed that the complaint should be dismissed With reference to the sixth charge listed above, which made a claim of refusal to properly treat, the Court said

'There is no proof of refusal by either appellant to treat the patient. On the contrary, appellee says Dr B continued his services On Saturday and Sunday nights hypodermics were administered by Dr B and he also loosened the bandages A liberal construction of the allegation might be that in failing, prior to Saturday, to remove or loosen the cast, there was declination to give treatment, but it can hardly be said, in the light of appellee's own testimony, that Dr B was not exercising his best professional judgment, even though he may and perhaps was in error in not undertaking to give other relief Certainly Dr A. is not to be charged with a failure to render services when appellee regarded the one treatment or operation at Jonesboro as the final services A was to render, and so testified '

The Court noted that each of the other charges in the complaint related to the treatment rendered by defendants on the first day, and said with respect thereto



"There is testimony in the record to show that the cast was too tight when first applied. There is testimony that within a short time swelling occurred, and that proper treatment probably would have been to loosen the tension. Dr A cannot be charged with such failure, for he had no opportunity to act. Appellee says he regarded Dr A's services as having ended March 4th. His entire case, as reflected by his instructions, is predicated upon appellants' negligence and want of skill when the operation was performed.

"Our conclusion is that appellee

has failed to support his allegations with substantial evidence. This is a case where a layman took chances and experienced misfortune of a tragic nature. If the doctrine *res ipsa loquitur* applied, the judgments might be sustained. But it does not. Medicine and surgery are inexact sciences, and physicians are not guarantors of results. Our view is that permanent injuries to appellee's son were occasioned by appellee's own negligence or error of judgment in not leaving the patient with Dr A when it became apparent infection had developed."

## JUST WONDERING

"We are wondering," remarks the editor of *The Journal of the Arkansas Medical Society*, "if other members recall the statement made in an address by President Roosevelt at the dedication of the Jersev City Medical Center on October 2, 1936.

"The medical profession can rest assured that the Federal Administration contemplates no action detrimental to their interests. The overwhelming majority of doctors of the nation want medicine kept out of politics. On occasions in the past attempts have been made to put medicine into politics. Such attempts have always failed and always will fail."

Cheering words then, remarks the Arkansas editor, shall we derive the same comfort from them but two years later? While we cannot say that we give their opinions unswerving belief, it is of interest in this connection to note the following news comments.

"You can count on F D R to push these pieces of legislation next session, administrative reorganization, part or all of the National Health Program. Results of the fall elections will determine whether certain of the measures will be moderate or sweeping but unless Democrats take an unexpectedly harsh licking, all will be pushed in one form or another"—*Newsweek*.

Has anyone heard from the Republican party? "Put it down that a long step toward establishing permanent free public medical relief will be taken by Congress, regardless of the elections. The drive for federal-state aid of 'medically needy' is backed by all the forces that make for success. The administration is behind it. Con-

gress has already blazed the trail. The opposition is not only unorganized, but demoralized and bewildered"—*Washington Whirligig*.

How do you, as an organized medical profession, react to those words, "unorganized, demoralized, bewildered," continues this editor, and he asks.

Have you made a complete inventory of medical needs and care in your county as the survey contemplates? Have you, as individuals and as county society organizations, approached your legislative representatives in an effort to present to them the viewpoint of organized medicine? Are the people of your county informed as to the disadvantages inherent in any plan for governmental intervention in medical care? Are you taking steps to preserve your rights and privileges as a private practitioner of medicine?

## FOR FEMININE M D 'S

The Woman's Medical Association of the City of New York announces that the Mary Putnam Jacoby Fellowship of \$1,000 for one year post-graduate work is now open to women graduates of medical schools. Dr Anne S. Daniel of the New York Infirmary, 321 East Fifteenth Street, is chairman of the committee. The fellowship is open to any woman graduate of an approved medical school. Applications for 1939-40 should be filed with the chairman of the committee on or before April 1, 1939.

# Across the Desk

## Discomfort or Malaise from Bullets and Buzz Saws in the Brain

THIS is as good a time as any to remind a hasty and careless populace in stern tones that firing bullets into the brain or ripping it up with buzz saws may bring on a headache or cause a vague feeling of discomfort or malaise. True, cases are on record where the victim has seemed better, more cheerful, than before. People used to say that a man with a mental quirk had 'a maggot in his brain,' and it may be in such cases that the bullet hit the maggot.

But no one should be misled by these instances. A maggot is after all a small target, and firing at him may only rouse him to greater fury. Policemen, of course, have training in marksmanship, and Da Costa<sup>2</sup> tells of an Atlantic City officer, suffering from melancholia, who fired a .32 caliber bullet into his brain in December, 1909, three days before Christmas, and by Washington's Birthday his melancholia had disappeared. A little later he felt strong enough to give up his constabulary strolls and go into real work as a stevedore.

### Not Always Improvement

But he was a policeman. A Kansas physician, Dr. Cyril V. Black, reports in the November, 1938, issue of the *Journal*<sup>3</sup> of his state medical society the case of a young man who entered the hospital in 1935 and remarked casually "I have been shot." He walked into the emergency room, climbed upon the operating table, and was about the coolest person present. His pulse and blood pressure were normal. It seems he had dropped his rifle while hunting, it had gone off and the bullet had penetrated his brain, breaking into several fragments. These were not removed, but there has never been any evidence of infection, and he is now able to earn his living, three years after the accident by ordinary labor, al-

though his manual skill is not what it was. We must not always expect improvement.

Some readers may remember the case of the young woman in Nevada, recorded here a few years ago, who fired a bullet directly through the frontal part of the brain, entering at one side and coming out at the other. She lost consciousness for a few hours, it is true, but in three or four weeks she was out of the hospital, and a little later was up and around the house, performing her household duties as usual. She has fired no more bullets, so the maggot is perhaps stunned or disabled.

### Brain Not So Important, After All?

Really serious injuries are quite different. The January *News Letter* of one of the county medical societies makes this clear. A small boy we are told, ran a splinter into his toe and died in a few days. A barefoot girl stepped on a nail and met the same fate, a dairyman slammed a door on his finger and was dead in a week. Accidents like these should have attention at once. Health advisers on the radio warn us that everyone with the sniffles should get medical aid.

A cold in the head may portend tragedy, but a piece of cold lead or steel in the cranium may be merely a bother. Thus, in 1884, Noyes<sup>4</sup> removed the breech pin of a gun  $4\frac{1}{2}$  inches long,  $\frac{1}{2}$  inch wide, from a patient's nose orbit and brain, where it had remained five months without producing serious disturbance. Perhaps the man hadn't noticed it. Dr. G. W. H. Kemper relates the case of a breech pin of a gun  $1\frac{1}{2}$  inches long removed from the brain, with complete recovery. It is not at all rare, in fact, for a surgeon to remove a large section of the brain and the patient feels better than he did before.

All this casts a bit of doubt on the real importance of our organ of intelligence.

<sup>1</sup> Mentioned somewhere in Shakespeare?

<sup>2</sup> C. Da Costa, N. Y. Med. Jour. Oct. 29, 1910.

<sup>3</sup> Jour. of the Kan. Med. Soc. November 1938 p. 464.

<sup>4</sup> H. D. Noyes, Am. J. Med. Sciences, July 1884.

If we can let various objects go tearing through it without making any particular difference, and if the surgeon's knife can lop off a piece here and there with actual benefit, is it perhaps possible that we are neglecting to use considerable areas, and are fumbling our way through life at only one-half or one-third brain power? Certain it is that our great geniuses, our men of volcanic mental force, wear hats little or no larger than the rest of us. What, then, is going on inside their skulls so different from run-of-the-mine mortals? If we could only find that out! The x-ray shows us where lie the bullet and the tumor in the brain, but the divine spark of genius eludes our search, and leaves no trace on the film. Perhaps these mental giants use all the brain, where the rest of us are content to use a fraction. This hints at interesting intellectual possibilities for all of us if we could learn how to bring the fallow areas into productivity.

### Butting a Buzz Saw

A bullet in the brain is after all only a small piece of metal. It may be self-inflicted, or fired by a loved one of regular or casual status, a sort of bullet-doux, so to speak. But when a man bangs his head against a buzz saw and it rips his skull open for eight inches and sprays his brains all over the place, we might think that would be "something else again." Not at all. A little mishap like that cannot keep the American worker from his toil.

It was "J. P.,"<sup>8</sup> aged 28, an American planing-mill hand in North Carolina who crawled under the table of a rip-saw to adjust a set-screw. The story doesn't say if the set-screw was adjusted satisfactorily, which was the important thing at the time, but J. P. forgot the saw making 2,500 revolutions a minute. He never forgot it again, for his head struck it full force, and it "literally split his head open from well down on the forehead diagonally across the head, a distance of eight inches, cutting through the scalp, bone, superior longitudinal sinus, mem-

branes of the brain, and considerable brain tissue." The cut was a quarter of an inch wide. J. P. came out from under the table, rose to his feet, and walked about one hundred yards before he collapsed.

Dr. Stringfield reached him within four or five minutes, and with the aid of another doctor dressed the cut, and he was removed to a hospital, where "considerable brain tissue oozed from the wound." If he had had a really serious accident, he might have been kept in the hospital for quite a time, but as he had had only his head ripped open by a circular saw and his organ of thought whipped up as an egg-beater stirs eggs for frosting a cake, he "made an uninterrupted recovery, and left the hospital the fifth week." He also "suffered very little showed no signs of paralysis or any bad after-effects," and "returned to work the eighth week after the injury."

The brain contains considerable albumen, so that a man who uses his brain well is called a "good egg," and one who uses it wrongly is called a "bad egg." Why the whirling saw did not beat up the albumen and cover J. P.'s head with icing was apparently not investigated.

### The Classic Case

Many readers by now are thinking of the classic "American crowbar case." It wasn't a crowbar, but a tamping iron, 3 feet, 7 inches long, 1 $\frac{1}{4}$  inches in diameter, and weighing 13 $\frac{1}{4}$  pounds. A premature explosion drove it completely through the head of Phineas P. Gage, a foreman of the Rutland Railroad, on September 13, 1847, while he was charging a hole with powder for a blast. The iron was round, smooth, and pointed, and entered the brain behind the left eye, coming out through the dome of the skull. Earlier paragraphs may lead some to think that Phineas paid no attention to it and went on with his work, or laughed it off, but the truth is our watchword, so it must be recorded that "he was slightly dazed, but not at all unconscious." A bit surprised, maybe, but didn't want to miss anything. Taken to a hotel, he

<sup>8</sup> S. L. Stringfield, J. A. M. A., Sept. 19, 1914, p. 1,025

dismounted from the conveyance without assistance and walked up a long flight of stairs. In the evening, after his wound was dressed, he was perfectly rational, but later, when the excitement was over, he was delirious a few days. After that, his recovery was rapid. He lost his left eye, but otherwise was as good as ever. No one, however, has tried to imitate him.

### Hitch up the Horse and Buggy

The question of the proper procedure in cases of brain injury like these is intriguing. When the doctor asks "Have you any headache or dizziness?" and the patient shakes his head, if there is a sound like castanets, it may be the fragments of a bullet rattling around in the skull. An entire change in the doctor's manner of approach may well be worth considering, too. Public taste, as revealed in the list of "best sellers," has had a strange transformation or throwback, and has 'gone ga-ga' over the old family doctor of the time of Rutherford B. Hayes. This shift of the wind must not be ignored. The profession must keep public favor at this time when it is standing at the crossroads. A hasty survey of the current magazines shows "America at the Crossroads," "Europe at the Crossroads," "Democracy at the Crossroads," etc., so that pretty much everybody is there now,

and there is no danger of being lonesome.

But the old long whiskered doctor of horse and buggy days is now the favorite figure of popular fancy, and the doctor who wishes to set his sails to the breeze of the hour will perhaps do well to drive up to the patient's door in a vehicle of the vintage of 1880, rush into the house, lay the patient out on the kitchen table, boil the family axe, bucksaw, carving knife and fork, sheepshears and Aunt Tibby's darning needle in the wash-boiler, and go at it in the style everybody seems to like so much. Don't forget to have the scene illuminated by grampa holding a kerosene lantern.

Another fine old custom was to pay the doctor in produce. Cabbages are now fetching \$3.50 a ton at the farm, and if the doctor's bill runs to \$70, say, the grateful patient can appear at the door to pay up with twenty tons of this delicate vegetable. It might not be such a bad bargain, either, for an inquiry at a New York City market the other day revealed that the retail price of cabbage on upper Broadway is six cents a pound. A resourceful doctor could certainly find someone to market his cabbages, and how much would he receive? \$2,400! A return to the good old days might be worth while.

W S W

---

### FOR BETTER NURSING SERVICE

A thorough study of the professional nurses registries throughout the state for the purpose of improving nursing service in the promotion of better individual and community health is the objective of the 1939 program of the New York State Nurses Association according to an announcement by Marguerite K. Jacobsen, associate executive secretary of the association.

The study will be conducted by an experienced field worker supplied by the American Nurses Association which is the parent organization of the State Association.

'We are seeking ways and means to improve the service we give to the public through the elevation of our own standards,' Miss Jacobsen said. 'To carry out this work we recently held two institutes for registrars.

Registries are developing hourly nursing service in many communities in the state because it is found that often a patient needs only an hour or two of skilled care and may then be left quite safely to members of a household. There is a growing demand for this type of service.

If a nurse goes into a home from a professional registry the family may feel that she is all that she claims to be. These registries or bureaus are nonprofit organizations and they seek constantly to be of assistance to the nurse and the patient. In many instances they provide lectures and demonstrations in nursing technique to keep the nurses informed of the best methods for caring for the sick. This is done in co-operation with doctors and hospitals.

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**Clinical Laboratory Methods and Diagnosis** A Textbook on Laboratory Procedures With Their Interpretation By R B H Gradwohl, M D Second edition Quarto of 1,607 pages, illustrated St Louis, The C V Mosby Company, 1938 Cloth, \$12 50

**Classic Descriptions of Disease** With Biographical Sketches of the Authors By Ralph H Major, M D Second edition Quarto of 727 pages, illustrated Springfield, Charles C Thomas, 1938 Cloth, \$5 50

**The New International Clinics** Original Contributions Clinics, and Evaluated Reviews of Current Advances in the Medical Arts Edited by George M Piersol, M D Volume IV, New Series One Octavo of 349 pages, illustrated Philadelphia, J B Lippincott Company, 1938 Cloth, \$3 00

**Control of Conception** By Robert L Dickinson, M D Second edition Octavo of 390 pages, illustrated Baltimore, The Williams & Wilkins Company, 1938 Cloth, \$3 50

**Manual of Public Health Hygiene** By J R Currie, M A Octavo of 324 pages, illustrated

Baltimore, William Wood & Company, 1938 Cloth, \$5 00

**Biology for Pharmaceutical Students and Others** By S Mangham, M A and A R Hockley, B Sc Octavo of 613 pages, illustrated Baltimore, William Wood and Company, 1938 Cloth, \$6 50

**Illustrated Primer on Fractures** Prepared by the Special Exhibit Committee on Fractures in Co-operation with the Committee on Scientific Exhibit of the American Medical Association Fourth edition Octavo of 95 pages, illustrated Chicago, American Medical Association, 1938 Cloth

**Outline of Roentgen Diagnosis** An Orientation in the Basic Principles of Diagnosis by the Roentgen Method Student's edition Octavo of 212 pages \$3 00 Atlas edition, octavo of 212 pages, illustrated Philadelphia, J B Lippincott Company, 1938

**A Synopsis of Physiology** By A Rendle Short, M D and C L G Pratt, M D Third edition Duodecimo of 325 pages, illustrated Baltimore, William Wood and Company, 1938 Cloth, \$3 50

---

## REVIEWED

**Modern Surgical Technic.** By Max Thorek, M D Three volumes Quarto of 2,045 pages, illustrated Philadelphia, J B Lippincott Company, 1938 Cloth, \$33 00

Volume I deals with general operative considerations such as the attitude of the surgeon to his art, postoperative considerations, sterilization, and anesthesia. Part two deals with surgery of the head and neck and plastic surgery. Volume II divided into Part three and Part four deals with surgery of the nerves, vessels, bones, breast, and chest, and Volume III divided into Part five and Part six covers the surgery of the abdomen and the pelvic region. This work is intended to stand between voluminous systems which often prove confounding and single volumes too abridged to offer detailed information

sufficient for the student and general surgeon. As the author states, there seems to be a genuine need for a succinct work on surgical operations, one which includes important advances in surgical technic and is sufficiently detailed to describe the procedures in all commonly performed operations. It is intended particularly for students, for general surgeons, and for those general practitioners who are occasionally called upon to perform emergency operations. Historical notes are included and the essentials of surgical anatomy are given preceding operative procedures. The operations are described by the step-by-step method for the benefit of the student. There is an abundance of illustrations which elucidate the text and which make

clearer the author's intentions. The operative procedures are selected from an enormous number of surgical procedures, and these give a comprehensive and authoritative picture of the status of modern surgical technique. A comprehensive Subject Index to the text and figures is appended to each volume. This work should thus be an invaluable reference for all general surgeons and to those limiting their practice to particular fields.

EMIL GOETSCH

**Pharmaceutical Latin** For Pharmaceutical Medical Dental and Veterinary Students and Practitioners, by Jacob S. Dorfman. Second edition. Octavo of 146 pages. Philadelphia, Lea & Febiger 1938. Cloth \$2.00.

This book contains one hundred and forty pages of declensions, conjugations, and vocabularies—specifically written for pharmacists, physicians, dentists, etc., who have no preliminary knowledge of Latin. A perusal of it by the practicing physician would discourage rather than encourage the use of Latin in prescription writing. It is, however, the most thorough treatment of the subject, and would serve as a splendid reference book.

CHARLES SOLOMON

**The Chemistry of the Steroids** By Harry Sobotka. Octavo of 634 pages. Baltimore: Williams & Wilkins Company 1938. Cloth \$8.50.

The present book is the second of two companion volumes. The first reviewed the physiology of the bile acids and lipides, and this one discusses the chemical aspects of the subject. The term "steroid" is meant to comprise sterols and steroids, i.e., sterol-like substances.

After an historical introduction, the author describes various methods of structural research of steroids. These chapters are of especial interest to the investigator in organic chemistry. In the next chapters the chemical properties of various steroids, i.e., bile acids, sterols, hormones, carcinogens, are described. Over 400 structural formulas serve to illustrate the text.

The second part of the book is taken up with a classified catalogue of the steroids and their derivatives. This occupies 330 pages of the book, comprising its main bulk. The properties of over 3,000 substances are described. An excellent bibliography, covering over 68 pages, with an author and subject index completes the book.

This book is essentially a storehouse of information for the research worker, especially for those attacking chemical phases of the problem. The compilation of this information will save hours of tedious search through the literature, for which the author deserves our gratitude.

ALBERT E. SOBEL

**A Synopsis of the Diagnosis of the Acute Surgical Diseases of the Abdomen** By John A. Hardy, M.D. Duodecimo of 345 pages, illustrated. St. Louis: C. V. Mosby Company 1938. Cloth \$4.50.

In this small volume which is in the nature of a synopsis the author has discussed in a concise fashion the acute surgical diseases of the abdomen. Although references to the literature have been omitted, the book should appeal to the general medical profession.

There are chapters on chronic disease of the intra-abdominal organs which perhaps cannot be considered acute surgical disease.

The author has drawn largely from his own extensive experience, and has covered the subject in a manner which will meet with the approval of the profession.

Perhaps a chapter or two on diseases of the chest, especially referable to the heart, might have been added in order to make this volume complete. The differential diagnosis between acute surgical disease of the upper abdomen and coronary artery occlusion is not uncommon and should receive consideration.

IRVING GRAY

**Practical Otolaryngology and Rhinology** By Adam E. Schlanser, M.D. Octavo of 315 pages, illustrated. Philadelphia, Lea & Febiger 1938. Cloth \$4.50.

The author is a Colonel in the Medical

Corps of the United States Army With military dispatch he proceeds with clarity yet brevity to cover a very difficult specialty of medicine Every phase of otolaryngology is considered, and the author's attempt at brevity makes this work so much the more illuminating and instructive The book was written primarily to fill a clinical need, and this is admirably done To his brother medical officer, stationed at some out-lying camp or district, the Colonel offers this work as a guide and for consultation

The author purposely omits details of anatomy and pathology, and concentrates his efforts in making this volume a clinical work which will fill the need so keenly felt by those who would render the patient a maximum service Throughout this volume one can sense the clinical experience of the author as he guides the reader, and lends a helping hand to avoid the pitfalls in the actual practice of otolaryngology and in combating the always present malingerer The discussion of deafness and the testing of hearing is unusually complete and well done, yet simple and readily understandable As a civilian we recommend this book to the general practitioner, the medical student, and to the otolaryngologist As a medical officer we suggest that this volume occupy as conspicuous a place as *Army Regulations*

SAMUEL ZWERLING

**The Pituitary Gland** An Investigation of the Most Recent Advances Volume XVII of a Series of Research Publications of the Association for Research in Nervous and Mental Disease Octavo of 764 pages, illustrated Baltimore, Williams and Wilkins Company, 1938 Cloth \$10 00

This volume is divided into three general subdivisions, dealing with anatomy, physiology, and general considerations Sections dealing with anat-

omy and physiology are particularly good The late Frederick Tilney has contributed a chapter on "The Glands of the Brain" with special reference to the pituitary gland

Virtually every possible phase of pituitary relationships is discussed The book is unusually well illustrated, 160 illustrations and 53 tables, being nicely spaced in slightly over 700 pages of reading matter

It is perhaps inadvisable in dealing with a subject concerned with endocrine factors to state that it is "up to date." We feel quite sure, however, that any purchaser of the book would feel well rewarded, in adding such a detailed analysis of "The Master Gland" to his collection

HAROLD R. MERWARTH

**Tuberculosis Among Children and Young Adults** By J Arthur Myers, M D Second edition Octavo of 401 pages, illustrated Springfield, Charles C Thomas, 1938 Cloth, \$4 50

Dr Myers has so firmly established himself as one of the foremost authorities on tuberculosis that any additional contribution to the literature by him must be eagerly welcomed This latest book *Tuberculosis Among Children and Young Adults* fully lives up to expectations It develops most clearly and logically the relationship between primary tuberculosis infection and the various paths along which such infection travels and its ultimate denouement in secondary reinfection, or adult tuberculosis The book embodies all the latest concepts of the pathogenesis of tuberculosis in childhood and adult life, and, of course, is most complete in its description of the symptoms and management of each specific type Any practitioner of medicine who wishes to keep abreast with the rising tide of knowledge on this complex subject cannot afford to be without this book

FOSTER MURRAY

#### ORDERING BOOKS

As a service to our readers, books listed in this issue or any other medical book in print may be ordered through T H McKENNA, INC., 878 Lexington Avenue, New York City Phone Butterfield 8-6603

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

FEBRUARY 15 1939

NUMBER 4

---

## *Editorial*

---

### The State Meeting

Judging by the interest already evinced in the Annual Meeting by physicians all over the state, it is advisable for those who plan to attend to make their reservations now. The State Meeting always brings a gathering of the membership in force. For many reasons this year should set a record attendance.

The Annual Meeting of the Medical Society of the State of New York is one of those rare occasions which may truthfully promise all things to all men. To those primarily interested in scientific study it offers a program of outstanding excellence, with lectures, clinical demonstrations, and technical exhibits combined to impart a maximum of practical instruction in the brief time available.

Politically minded members who desire to study the currents which are pushing practice in new directions and to participate in the formulation of professional policy will have ample opportunity to satisfy their interests at the State Meeting. At the Annual Dinner this year Dr Irving Abell, President of the American Medical Association, will discuss national medical problems. Dr William A. Groat, President of the State Society, will present the situation in New York and outline the policies which will govern his administration.

It has not been forgotten that a large number of physicians view the State Meeting as an opportunity for relaxation and play. For them and their ladies golf, card parties, and other social events have been arranged.

In addition, the Society will have two distinguished guests at the Annual Dinner who are incapable of instructing without entertaining or vice versa. Dr Logan Clendening has made the romance



of medicine live for the laity without sacrifice or distortion of scientific fact Alexander Woolcott—dramatic critic, author, actor—unforgettably enriches every subject on which he turns the brilliant light of his multi-faceted wit

For those who have not yet noted the date in their diaries, the Annual Meeting will be held in Syracuse from the 24th to the 28th of April

### Monopoly by the Inferior

In the January issue of *America's Future*, Dr Charles Gordon Heyd asks the American public what kind of medicine it wants "Do You Want Your Own Doctor—or a Job Holder?" asks Dr Heyd, and in the asking he tells the laity what it may expect if compulsory health insurance drives out the private practice of medicine in this country

For sooner or later compulsory insurance does drive out private practice, with the inevitability with which "bad money drives out good" under Gresham's Law As the compulsory insurance system is expanded to bring in ever new classes of the population—and it must be so expanded to remain solvent—it becomes less and less possible for private practice to compete with cheap state services In the end, the government exercises "a complete monopoly in distribution of medical services"—a monopoly which is more real and more dangerous than the spurious charge trumped up against the American Medical Association by Assistant Attorney General Thurman Arnold and his cohorts

As Dr Heyd truly observes, compulsory health insurance is a political expedient rather than a scientific attempt to satisfy the medical needs of the public on a quality basis It promises service that it cannot possibly deliver, for while it undoubtedly spreads the cost of medical care, it can buy no more of the latter than "is provided by the premiums less the cost of administration The tax dollar for compulsory health insurance cannot possibly buy a dollar's worth of medical service for the solvency of the insurance system will eventually regulate costs at the expense of medical benefits "

The proponents of compulsory health insurance proselytize for their scheme by hammering away at a few striking sets of statistics Upon close examination, however, most of their figures are seen to be more sensational than accurate For example, they point to the number of deaths from tuberculosis in a given year as a sample of the inadequacy of our system of medical care, but they do not

say that the League of Nations' statistics show a more rapid decline of the tuberculosis death rate in noninsurance than in insurance countries. As a matter of fact, they avoid all mention of the tremendous drop in tuberculosis mortality which has taken place everywhere in the past quarter century, and which may reasonably be expected to continue.

On the subject of costs the friends of compulsory health insurance are equally vague, not to say misleading. Dr Heyd quotes Bower Aly, who promises complete medical care for *only* ten cents a day per person. That sounds cheap, doesn't it?—until a little multiplication brings the figure to \$146 a year for the average American family of four persons.

It must be emphasized in this connection that the money for compulsory health insurance would come in the main from the workers themselves. "There is no such thing as free medical service" under state control. "Taxes," generally speaking, "are paid by all of the people and not by the rapidly disappearing rich class. Every cent taken from the dollar for taxes is just that amount abstracted from the standard of living." If longer life and better health resulted from this sacrifice, it would be worth while, but the inescapable fact remains that on the whole the United States and Canada have lower morbidity and mortality rates than any country with compulsory insurance.

This is primarily because "the practice of medicine in America is a diagnostic practice, based upon complete physical examination and scientific laboratory determinations." In panel practice, with few exceptions, ambulatory medical care consists of "a brief visit to the doctor, an inadequate scant history and a prescription or the dispensing of a bottle of medicine."

Any system of state medical aid to be acceptable to the medical profession must conserve the best standards of private practice. "Organized medicine believes the health of the citizens is one of the primary interests of government. It does not believe, however, that the government can function in the distribution of medical services as well as those trained to render that service."

### High Incidence of Unrecognized Trichiniasis

From several extremely impressive studies during recent years concerning the incidence of human infestation with the *Trichinella spiralis*, it is evident that this remains high despite the painstaking governmental inspection of meat which has been in force for the past forty years. Queen,\* who conducted his survey in Rochester (New

\* Queen, F. B.: *J. Parasitol.* 17: 128 (1931)

York) and Boston, found it to be 18.7 per cent. McNaught and Anderson\* report the occurrence in their series as 24 per cent, while Pote,† working in St. Louis, found the larvae in 15.4 per cent of the 1,060 unselected autopsies. These figures are much higher than those existing in all reports prior to 1901, and therefore some important conclusions can be drawn from the work of these investigators.

In Pote's 163 positive observations there were instances of infestation to a severe degree, yet in no case was there any evidence of trichiniasis to be found either in the clinical picture or in the history. This is in accord with the findings of others who have conducted similar studies. Furthermore, the occurrence of the *Trichinella* was not found to be either a direct or a contributing factor in the death of these 163 patients. During the five-year period of Pote's study, only seven cases of trichiniasis had been reported to the Health Department of the St. Louis area, despite the large number in whom the parasite was found at postmortem examination.

Since in packing houses under Federal supervision, the law compels the processing of all pork products to destroy the *Trichinella* where there is a possibility that the pork may be eaten without cooking, the source for this high incidence of infestation must be sought for elsewhere. In all probability it is the "country pork" prepared on the farms and in unsupervised local slaughter houses that is responsible for the wide extent of trichinella infestation in man. Consumers of pork, regardless of its place of preparation should be warned to cook all pork thoroughly, since, in the last analysis, they alone can completely eradicate trichiniasis by strictly observing this counsel. A casual hint from the doctor to his patient will help a great deal.

### Fresh Blood vs. Bank Blood

The clinician has never concerned himself to any degree with the details surrounding the administration of blood by transfusion. In the numerous conditions for which he prescribes blood he rarely interests himself beyond determining the need for such medication. Yet there are instances in which the direct transfusions of whole blood is infinitely preferable and of more therapeutic value than the use of citrated blood. Because of the widely spreading institution of "blood banks" in our hospitals, a tendency to use this source of supply as a routine one for all cases may manifest itself. As Rhoads and Panzer‡ point out, this stored blood is not equivalent to freshly drawn blood in all respects.

\* McNaught, J. B., and Anderson, E. V. J. A. M. A., 107, 1,446 (1936).

† Pote, B. Am. J. Med. Sc., 197, 47 (Jan.), 1939.

‡ Rhoads, J. E., and Panzer, L. M. J. A. M. A., 112, 309 (Jan. 28), 1939.

Using a modification of Quick's\* method in order to determine the prothrombin time of blood stored in the bank, samples were examined ranging in age from three to ten days following withdrawal from the donor. It was found that the older the specimen, the greater the prolongation of the prothrombin time. This ranged from 17 per cent increase on the third day to 40 per cent on the tenth day. They conclude from their observations that the use of blood which has been in the bank more than a week is almost valueless in the treatment of diseases having an acute prothrombin deficiency. Where, for instance, it is desired to combat hemorrhagic tendencies in jaundiced patients both pre- and postoperatively, the transfusion of stored blood is decidedly less effective than freshly drawn blood even where bile salts and vitamin K had been given.

It is obvious, therefore, that the clinician must in the future be aware of the fact that the mere prescribing of blood is no indication that his patient will receive the quality of blood needed to meet the given situation. He must indicate the kind he wants administered, and, until the laboratory provides additional data on the comparative values and curative properties of bloods differently prepared, he will have to be guided by his bedside observations.

### Current Comment

"The general idea of creating a big general fund through which the masses could get medical treatment at low cost is okay, and a humane proposition, if politics is kept out of the business of getting a doctor in a hurry. The danger is that you'd phone the Federal bureau for a bonesetter and get an eye doctor. And even then you might have to wait until eight or ten healthy bureaucrats got around to investigate your case to see if you were really sick. And if there is one thing most people would be scared stiff by it's the possibility of the Government ever being the one to see that the right labels get on the medicine bottles." The foregoing is from the column "Dave Boone Says" in the January 25, 1939 issue of the *New York Sun*.

candidates for medical schools suggested by politicians." from an address by Dr Charles Gordon Heyd.

The chief protection of the American medical profession against becoming pawns in the hands of political strategists is the assumption by its members of roles of social leadership. Physicians have always been considered as insulated against all extra professional contacts, barred to civic interests, poor business men, impractical idealists, sentimentalists who are mercilessly exploited by professional welfare organizations. But they themselves are chiefly responsible for these poor opinions of them, they have been so busy in their own kitchen gardens that they have seldom looked upon the outside fields.

\* If we have a system of socialized medicine, we cannot exclude the son or daughter of any politician. We will have

The earnest thought and endeavor of physicians will still be engaged with adolescence, senescence, casualties, and malignities but these will not claim their

\* Quick, A. J.: *Am J Physiol.* 114: 282 (1936)

entire attention. Sickness and death are important, but not so much as life. Even life itself is not so important as its quality.

Theoretical and applied science must now be used not for the satisfaction of curiosity, but for the betterment of self and for the construction of truly civilized man. "Doctors Must Grow Up" is the title of an editorial in the *Medical Record* of January 18, 1939, from which we have quoted in part

. . .

"He (the doctor) is the man, at long last, who will be called upon to deliver the medical care which is the subject matter of proposed legislation, and if he knows good reasons why certain laws will work and others will not, he may properly see to it that they are presented to the men who make our laws. In fact, it may even be that his Senator and Congressmen are waiting to hear from him." "Write Your Congressman Immediately," recommends Dwight Anderson, Director of the Public Relations Bureau of the Medical Society of the State of New York, in the January, 1939, issue of *The Public Opinion Quarterly*, published by the School of Public Affairs of Princeton University.

. . .

"Is medicine a philanthropy depending for its support upon gratuities, or is it a profession at which the practitioner must work for his livelihood and economic position? It has been said 'By their works ye shall know them.' Upon that thesis *medicine* ought not to have to stand before the bar to plead. But the fact is, it must. Let us, then, be stiff-jointed advocates, who see the right, and speak with authority, unanimously." This time the call to stand together comes from the Toledo Academy of Medicine's *Bulletin*.

. . .

"It is probable that to the lack of careful thinking, or maybe the inability to

think clearly, a common fault these days, the world owes its present distresses, social and individual, a term too mild to apply to the upheaval which is taking place. If the task of bringing things into something like order is not taken in hand, and if force triumphs everywhere, the world will not only be unfit for heroes to live in but for ordinary people as well." From an editorial on "Our Civilization" in the *Medical Record* of January 4, 1939.

. . .

"The fact of the matter is that unless there is strict medical control of contract practice it is bound to be of an inferior type, employing unskilled or inexperienced physicians. It stands to reason that a system which pays enough to attract qualified physicians cannot be as cheap as interested persons would have us believe.

Medical service of a high-grade type cannot be 'thrown in' as a premium to promote sales memberships or circulation—as some newspapers, for example, have attempted to do. Neither can it be furnished at bargain prices of fifteen or twenty cents a call. It is distinctly not a mass production industry. The point is that group payment plans must observe the same ethical rules as govern the practitioner's relations to his privately paying patients. This entails fair payment for the doctor, avoidance of unethical advertising and soliciting and strict control of standards by organized medicine." An opinion expressed by the editors of the *St. Louis County Medical Society Bulletin* of January 20, 1939.

. . .

"So long as we find it necessary to invest sixty or eighty millions in a battleship which is obsolescent even before it is completed, and grant only a few millions for the study of cancer or mental diseases, militant science has a case." From an editorial in the *New York Times* of January 4, 1939.

# TREATMENT OF DERMATOPHYTOSIS WITH TRICHOPHYTIN, CONVALESCENT OR IMMUNE SERUM, AND VACCINES

EUGENE F. TRAUB, M D, and JESSE A. TOLMACH, M D, New York City

IT is our belief that at this time dermatologists should come to an agreement as to the efficacy of the various biologic methods of treatment of dermatophytosis. We are all aware that vaccine and extract treatment of this disease has received wide use on the part of physicians on the basis of overenthusiastic reports partly in the medical literature and partly from commercial advertising. Perhaps a critical résumé of most of this work done to date would serve to stimulate dermatologists to take a more uniform attitude toward such treatment. After all, it is to the dermatologist that the general physician turns for the last word in the treatment of skin diseases.

It was logical that dermatophytosis, which is so prevalent and so persistent and which causes systemic reactions, should have been given thorough study from an immunologic standpoint. All of us have experienced difficulty in clearing up some of the mycotic eruptions with which we have been confronted and it is an even more common experience to see many of our "cured" cases return quickly with what were formerly believed to be fresh infections but which probably represent a relapse of a previously arrested but dormant infection. Therefore, trichophytin, when first used in this country as a therapeutic agent by Van Dyck, Kingsbury, Throne, and Myers,<sup>1</sup> appeared to place at our disposal a valuable form of desensitization therapy. They stated that "during this investigation, it was noted that recurrences or exacerbations were uniformly seen when the curative injections were not continued until there no longer appeared any reaction at the sites of injection, or, in other words, until a general desensitization had developed." Also that "sufficient time has

not elapsed to allow any conclusions as to the duration of the immunity which this method of treatment may produce." They apparently assumed that the desensitization and immunity paralleled one another. One hundred cases of "mycotic-like eruptions which gave a positive reaction to trichophytin" were selected and given trichophytin injections together with the usual local measures. They reported 32 per cent of their cases as apparently cured, 28 per cent greatly improved, 21 per cent slightly improved, and 19 per cent unimproved.

Sulzberger and Wise<sup>2</sup> following along the same lines asserted "Since the dermatophytids are today usually the most important therapeutic problem in the common tinea infections and since these 'ids' are dependent on the hypersensitiveness of the skin for their existence, attempted desensitization therapy was indicated. In 18 cases of probable 'ids' desensitization by means of intradermal injections of trichophytin was attempted. While complete or relative desensitization could be achieved in 15 cases, only about two thirds of this number seemed benefited by the treatment, these showing either long remissions or marked improvement or apparent cure." They selected 18 cases of "probable ids" (no microscopic or cultural identification having been done) and treated them with trichophytin and in all but 2 or 3 cases with the usual local remedies as well.

Kerr, Pascher, and Sulzberger<sup>3</sup> reported on 6 cases selected in the following manner "Eczematous hand and foot eruptions clinically called dermatophytosis and dermatophytid (in the large majority of which it may be assumed that both the omnipresent *Monilia* and the almost omnipresent epidermophyton could

*Read at the Annual Meeting of the Medical Society of the State of New York, New York City, May 10, 1938.*

have been found by careful mycologic investigation of the feet, toenails, mouth, et cetera) There were none with skin reactions to trichophytin alone, 8 cases with reactions to both trichophytin and oidiomycin, and 4 cases with reactions to oidiomycin alone." In other words all 12 were positive to oidiomycin. These patients were treated with either trichophytin, oidiomycin, or with both. Additional local treatment may have been employed, its use is not denied. Four of the cases were improved after varying numbers of injections (11-20), 1 case marked "cured" after ten injections had a relapse in six months and had improved after seventeen more injections. The last case also "cured" after five injections returned after eight months to receive eight more at which time the patient was discharged from treatment. Actually then, one of their cases may have been "cured" yet their conclusions were that "satisfactory therapeutic results, through desensitization either with oidiomycin alone or with oidiomycin plus trichophytin are reported in 6 persistent cases of clinical dermatophytosis and dermatophytid." Apparently they too, like Van Dyck, et al., thought that immunity and desensitization were necessarily one and the same process—to quote "moreover, just as in other active immunization procedures, we observed that in oidiomycin desensitization the *active immune* or *desensitized* stage may sometimes be reached by passing through a stage of increased hypersensitivity."

We found desensitization<sup>4</sup> with trichophytin a very temporary affair. In a series of 135 patients treated with this agent, all of the patients whom we succeeded in desensitizing and who returned to us with recurrences showed the same reaction to trichophytin that they had shown before the first treatment was instituted. In our comments we said "We feel that desensitization as manifested by the failure to react to trichophytin, had little or no effect on the course of the disease. There was certainly no evidence to encourage us in the hope that immunity can be induced by

means of injections of trichophytin. On the whole, trichophytin had as little effect on the "ids," in which improvement might have been expected theoretically, as on the mycotic foci, in which it was not expected."

Osborne, Putnam, and Rickloff<sup>5</sup> treated more than 100 proved cases of dermatophytosis with trichophytin and monilia extracts. Unfortunately they did not state whether or not local remedies were also used. Despite the fact that this article was published before our study, which was done at the same time, we overlooked this report because it was buried in an extensive review dealing with other phases of dermatophytosis. It is significant, therefore, that our conclusions and theirs, independently arrived at, are identical. They concluded, "our results have been sporadic and, we believe, no better than could have been expected without trichophytin. In chronic relapsing mycoses of the hands and feet our results have been very disappointing. Apparently good results, in most instances, proved later to be temporary. We should never forget the natural tendency to improve and relapse, depending upon the environment, and especially under mild antiseptic applications. We can find no theoretical reason for expecting that desensitization would effect a cure of a primary focus. Local flare-ups of foci and widespread dermatophytids, asthma, and urticaria have been observed following trichophytin and in one instance a severe vesiculopustular exfoliative dermatitis."

Templeton<sup>6</sup> also warned that when using trichophytin, caution was necessary and he reported cases with severe local, focal, and general reactions to the orthodox, strong concentrations usually employed.

We<sup>7</sup> discussed fully in another study the dissociation of hypersensitivity (allergy) and immunity, and advised, for purposes of clarity, the restriction of the term allergy to the following definition of Rich "that state of specific hypersensitivity which develops as a result of the entry of foreign protein into the tissues, and which

manifests itself locally by the occurrence of tissue damage and inflammation wherever the foreign protein or even a specific fraction of the sensitizing molecule (haptene) lodges in the previously sensitized tissues." Probably only the word 'protein' in this definition might be subject to revision. This dissociation of allergy and immunity noted by Rich, Kahn, C. A. Stewart, Cross, C. M. Williams, and others was demonstrated by the results we obtained in the treatment of our patients with trichophytin. In 83 of our cases in which microscopic identification was obtained we were able to desensitize 23 completely, but we did not effect a cure in a single instance. Sixteen patients in this series gave no reaction to trichophytin at any time, despite the positive mycologic findings and in this group there were 2 apparently "cured" cases, and 5 patients who showed improvement. In 52 cases in which microscopic identification was lacking, we were able to desensitize 17 patients, only 2 of whom were apparently cured.

It should be evident from the foregoing that even the most optimistic did not expect trichophytin to destroy the primary mycotic focus, but it was hoped that it might, by desensitizing the skin, eliminate the dermatophytid. This hope was not realized.

Our next step was to attempt treatment with what we chose to call 'convalescent or immune serum.' It had been shown by some investigators, though not unqualifiedly confirmed, that there are fungicidal elements in the blood of these patients. Per and Braude<sup>8</sup> stated that 'parasitic fungi ceased growing within two days after being mixed *in vitro* with blood serum of allergic subjects.' Jessner<sup>9</sup> also described "growth-inhibiting antibodies in the blood serum of patients hypersensitive to fungi." Ayres and Anderson<sup>10</sup> reported a study which indicated the presence of circulating fungicidal antibodies in the serum of patients having "phytid" lesions associated with dermatophytosis. The latter authors concluded that the presence of the antibodies was proved by the failure of growth of

fungi isolated from the primary focus of infection inoculated in Sabouraud's medium mixed with 8 per cent of the patient's serum.

Assuming the presence of these elements in the blood and assuming too, that there are not enough of these reaching the skin to prevent the growth of fungi in cases of dermatophytosis, we decided to attempt to put these hypotheses to a practical application.

We selected 14 cases of clinically typical and microscopically confirmed dermatophytosis with dermatophytids. We also selected 4 cases of confirmed dermatophytosis of the feet alone. The duration of the disease in these cases varied from a few weeks to several years. To each of these patients we gave subcutaneous injections of serum obtained from patients with fungus infections of the feet accompanied by dermatophytids, whom we had completely cleared of the eruption with the usual topical remedies. All the blood to be used for treatment purposes was first checked with Wassermann and Kahn tests. The blood was withdrawn just as soon as the eruption cleared. This was done for two reasons. First, we assumed that at this point the fungicidal elements, if present, would be at their maximum quantity. Second, we did not know how long they remained after the eruption cleared.

The serum was kept on ice and no preservative was added. After a period of two weeks, the serum was discarded because of the possible deterioration of these elements. The injections were given subcutaneously in doses of 1 to 3 cc. every five to seven days and an average of six injections was given to each patient. No local applications were prescribed. These considerations were entirely arbitrary.

The results proved of some interest. Three of the 14 cases of dermatophytosis with dermatophytids were completely cleared. Two of the 4 cases of foot infection alone were completely cleared. There were recurrences within a period of three weeks to two months in 4 of the 5 cleared cases. The fifth case disappeared from our clinic. In 16 of the 18 cases,



there was noted a very definite clinical improvement in both the hand and foot lesions after the first to the third injections. Also, it was noted that in most of the cases, after this initial improvement, the condition remained stationary. In 2 cases, no changes were noted.

The number of cases was obviously small. The difficulty of obtaining serum and having suitable subjects on hand at the same time is evident. The conclusions to be drawn from this experiment can only be speculative. It is possible that the few temporary cures and the general marked improvement after the first few injections were the result of supplying needed immune antibodies to the patients. It is conceivable that better results might have been obtained if larger doses of serum had been given. It is also possible that the early improvements were due to psychic factors, i. e., suggestion. In the latter respect, it might be pointed out that in the treatment of this disease with trichophytin injections we encountered many cases of early improvement followed by a more stationary course and even exacerbation. We observed this type of response in one case in which we injected only normal saline solution. Some of the improvement may have been due to nonspecific action. The answer to these speculations will depend on further painstaking investigations of this problem.

At the same time Robinson and Grauer<sup>11</sup> were treating mycotic infections with autogenous or stock fungus vaccines. In all, 66 cases were studied with the following results—cured, 50, improved, 9, and unimproved, 7. Positive cultures were obtained in all but 13 of their cases so that their patients were carefully selected, but no mention was made about the all important point as to whether or not local treatment had been used together with their vaccine therapy.

Fonseca and Leao<sup>12</sup> produced a polyvalent vaccine which they claimed aroused antibody production and in turn stimulated a general immune mechanism. Their highly favorable results were substantiated in part by Motta.<sup>13</sup>

Eller and Kazanjian<sup>14</sup> compared the results obtained by treating 50 patients with dermatomycol added to the regime and 50 patients that had been previously treated with similar local remedies but without the dermatomycol. They "gained the impression that the Fonseca vaccine did shorten the course of disease somewhat, but the results so far are by no means as striking and miraculous as reported in the literature."

Recently we<sup>15</sup> studied another large series of cases of dermatophytosis, dermatophytosis with "ids," and tinea capitis. Sixty-five of these had been reported in detail. We used three different vaccines, all of which have been described in the literature. Our results were far from gratifying. Over 60 per cent of the cases were entirely uninfluenced by the treatment. About 9 per cent were apparently cured. It is our belief that the terms "cured" and "improved" in this disease are subject to question. This work convinced us that vaccine treatment of dermatophytosis is not yet practical and that further experiments are necessary.

### Comment

It is immediately apparent from this review of the literature that a number of authors have reported high percentages of good results or "cures" with the various types of fungus extracts while a minority have found such preparations practically valueless. We question, in the first place, the advisability of using the term "cure" because only prolonged observation and repeated microscopic and cultural studies could determine this point. The difficulty of following up such cases is obvious.

We believe that only those experiments can be accepted where the authors actually proved that they were dealing with cases of dermatophytosis. "Mycotic-like" eruptions with a positive trichophytin test,<sup>1</sup> cases of probable "ids,"<sup>2</sup> and eczematous hand and foot eruptions clinically called dermatophytosis and dermatophytid (in the large majority of which it may be assumed that both the omnipresent *Monilia* and the almost om-

represent epidermophyton could have been found by careful mycologic investigation)\* (but were not)\* are not the carefully selected type of cases on which we believe such a study should be based.

Everyone is well aware of the fact that it is difficult to evaluate accurately the results of therapy in dermatophytosis, which even if left untreated runs a most capricious course of improvement, apparent cure, and relapse. Therefore, we believe it doubly difficult to judge the value of the biologic remedies where the authors used local measures in addition to the injections.

Conclusions drawn from a small series of cases even if carefully controlled otherwise are often fallacious. As we have mentioned, one of our cases improved materially after placebo injections of a normal saline solution. We cannot conclude from such an experience, however, that saline might be expected to be of value or that the result in the one case was anything but a coincidence.

Regardless of the type of vaccine or the type of case, we believe the number of patients entirely uninfluenced by treatment remains high and approximately the same—in our experience over 60 per cent—and the number of cured or improved cases relatively low and, in fact, much lower than our figures indicated. We found that the longer we followed our patients, the smaller grew the number of cases we were able to report as "cured" or "improved."

We do not feel that vaccine, trichophytin, or convalescent serum treatment of dermatophytosis should be discarded. We feel rather that we should take stock of these agents. We feel that the biologic methods of treatment still belong in the laboratory and should not yet be advocated for general use. Some good results in a small number of cases have been reported, but the reasons for the small percentage of good results regardless of the methods of biologic treatment should be investigated. Perhaps the soil on which the fungi grow is altered by factors which we have not taken into account and

which, if understood, might help us in controlling the disease. Certainly the general health of the patient is a factor. In one instance a long standing proved case of dermatophytosis was completely cleared up following a thyroidectomy. The patient has been observed for six to seven years since operation and the eruption has not recurred. Other such examples are not uncommon. Other methods of preparation of the vaccines and extracts must be considered too—and these methods tried out. The question of dosages must also be further studied. At the present time it is our belief that the usual local remedies, Whitfield's ointment, x-rays, boric acid ointment, wet dressings with boric acid, Burow's solution or potassium permanganate, et cetera, are still the most practical and useful agents at hand.

It is evident, therefore, that it should be agreed that the routine use of fungus extracts and vaccines by the dermatologist and general practitioner is not yet justified by the results obtained. The further work that must be done in this field should still be considered experimental only.

## Bibliography

1. Van Dyck, L. S. Kingsbury J. Throat B. and Myers, C. N. New York State J. of Med. 31 No 10 611-612 (May 15) 1931.
2. Salsberger M. B. and Wise F. J.A.M.A. 99: 1759-1764 (Nov 10) 1932.
3. Kerr P. S. Pascher F. and Salsberger M. J. Allergy 5 No. 3 285 (March) 1934.
4. Traub E. F. and Tolmach, J. A. Arch. Dermat. & Syph. 32: 413-419 (Sept.) 1935.
5. Osborne R. D. Putnam E. D. and Rickoff R. J. New York State J. of Med. 33: No 21 1270-1274 (Nov 1) 1933.
6. Tompkinson H. J. J. Allergy 5: No. 5 621 (July) 1934.
7. Traub E. F. and Tolmach, J. A. Deliberations Congress Dermatologorum Internationalis 9 1: Boda pestine 13-21, 714-719 (Sept.) 1935.
8. Per M. and Braude, R. Acta Dermat. Venereol 9: 1 (1938).
9. Jesner, M. Handbuch der Haut und Geschlechtskrankheiten Julius Springer Berlin 11: 361 (1928).
10. Ayres S. and Anderson N. P. Archives of Dermat. & Syph. 29: 537 (1934).
11. Robinson and Grauer Archives of Dermat. & Syph. 32: 787 (1935).
12. Fonseca, Filho Olympio da, and Leao A. R. de Arca. Rev med-cir do Brasil, 39: 3 (Agosto) 1931.
13. Fonseca Filho Olympio da, Leao A. R. de Arca, Gonçalves, B. N. and Junior R. Rev med-cir do Brasil 44. 31 (Feb.) 1934.
14. Motta, J. Anais Brasileiros de Dermatologia e Sifilografia, 8. 9 (No. 1-213) 1933.
15. Hiler, J. J. and Kazanjian, J. A. New York State J. of Med. 38 No 23 1,815-1,818 (1936).
16. Tolmach J. A. and Traub, E. F. Dermatology tools—the treatment with vaccines. (In press.)

\* This remark is ours.

## Discussion

Dr Samuel M Peck, *New York City*—The paper of Dr Traub's is very timely. It is gratifying to see one of the experienced investigators in this field take stock of the present status of the biologic methods of treating fungus infections. While the average case of dermatophytosis with and without "ids" is not a very difficult therapeutic problem, nearly every dermatologist sees enough cases, especially those with "ids," which are not only difficult to cure, but are very often almost impossible to control. The use of trichophytin of all types has proved very disappointing in my experience. Local and general reactions are often met with, especially focal reactions in the very lesions which we hope to control. When apparent "cures" are obtained, recurrences were fairly frequent. I agree with Dr Traub that one must differentiate between desensitization or suppression of a positive trichophytin test and a real immunity.

Very few of the investigators have pointed out that the type of infectious organism should be borne in mind in evaluating results of biologic methods of treatment. In the majority of instances in the trichophytin test we are dealing with a group reaction to fungi. In many cases a more specific trichophytin or vaccine might be necessary. It is for this reason that the polyvalent vaccine of Fonseca and Leao which contained many strains seems to be a more practical form of therapy. But due to its very contents of about 100 and more strains, there results a dilution of the individual organism or toxin. This in turn seems to me in the end to defeat the purpose of using such a polyvalent vaccine.

More critical choice of cases both as far as diagnosis and suitability, as far as the use of trichophytin for therapeutic purposes is concerned, is necessary. It seems to me that the treatment of fungus infections to be successful must be of the type which results in the eradication of foci of infection and thus prevents the formation of hypersensitivity on the one hand and disappearance of the "ids" on the other. We must admit that the present chemotherapeutic methods for treatment of fungus infections are most unsatisfactory.

Dr Marion B Sulzberger, *New York City*—We are all surely indebted to Drs Traub and Tolmach for this presentation. It should be pointed out that this paper is valuable in that it compiles the previous results of trichophytin therapy of dermatophytids at the hands of various investigators, adds a new series of cases, and again emphasizes the fact that this form of

treatment is not indicated as a routine measure. This last is precisely the conclusion Wise and I reached at the close of our first investigation of this particular problem. In this connection it is noteworthy that all previous workers since Plato-Neisser had employed trichophytin not in the treatment of the allergic eczematous secondary "ids" but in an entirely different manner, namely, as a stimulating measure to be used in the attempt to accelerate the cure of primary inflammatory foci of tinea infections. Wise and I, after more than two years' study completed in May, 1931, reported the following results of these first investigations on the possible value of trichophytin desensitization in the treatment of eczematous dermatophytids.

First, we noted the new and biologically important fact that repeated intracutaneous trichophytin injections almost regularly succeed in reducing the skin's "tuberculin-type" hypersensitivity to trichophytin. At approximately the same time and independently, Van Dyck, Kingsbury, Throne, and Myers succeeded in reducing the skin's hypersensitivity to trichophytin in a similar manner.\* These results have been confirmed repeatedly and may now be regarded as an established proof of a general and basic immunologic phenomenon which may acquire significance in other fields, particularly, for example, in tuberculosis. However, Wise and I came to the conclusion that, "The method we have employed is by no means suitable for general treatment. At present we can recommend it only as an ultimate measure in severe and refractory cases occurring in co-operative patients. Nevertheless, the results do not discourage further attempts in this direction. Modifications of our methods may improve the results."†

Wise and I have discussed in some detail the possible causes for some of the many failures of trichophytin treatment, and indicated some of the directions in which improvements and modifications might be sought.‡

It is to be regretted that none of us, including Dr Traub and Dr Tolmach, has as yet been able to develop these hoped-for modifications which might improve the results.

I say this in spite of the fact that Dr Traub's and Dr Tolmach's results, even with the old method, seem somewhat better than those at our hands. (If I recall correctly they speak of 45 per cent improved and 10 per cent "cured.") I believe that this slight difference in results may be based upon the fact that our criteria for estab-

\* *New York State J. of Med.*, 31: 811 (1931).

† Quoted from an article submitted May 19, 1931, and appearing in the *J. A. M. A.*, 99: 1,759 (1932).

‡ *Year Book of Dermatology and Syphilology*, pp. 23-26, 1937.

lishing the diagnosis of dermatophytid and for reaching conclusions as to therapeutic trichophylin-effect were stricter than those in the present series. It was for this reason that out of a large series of treated cases only 16 remained which could be considered satisfactory. For example, we reported only on cases of previous known unfavorable course and known refractoriness to all treatment for periods varying from one and one-half to fifteen years. This was done in order to exclude as far as possible the error due to possible spontaneous remissions. Second we chose only cases in which all other possible causes could be excluded as far as possible cases for example with negative patch tests to eczematous contact allergies, cases without remissions when away from external contact excitants (change of exposures constant occlusive gloves, etc.) cases without other demonstrable foci of infection (tonsils teeth, sinuses), and cases with proved foci of dermatophytosis. Only 16 cases of more than 100 studied eventually satisfied these rigid criteria and even these we called only probable ids. Moreover, we did not allow ourselves to fall into the all too common error of considering a case of probable "id" because the patient had a hypersensitivity to trichophylin or because *Trichophyton* fungi were demonstrable in a skin or nail lesion. These criteria are of relatively little value since it is established that in New York City at least 70 per cent of adults will have such skin reactions to trichophylin and will have such fungi present in skin or nails. Furthermore, we deliberately allowed our patients to continue with that form of local therapy which had previously been employed without beneficial effect. We believed this to be an essential to the correct evaluation of the possible beneficial effects of the additional trichophylin therapy. For it is only too well known that cases of dermatophytosis and ids may persist because of the irritating and other effects of local applications. So that if we had stopped the usual local applications we might have attributed to trichophylin effect a good result which was actually due to the cessation of irritating treatment. And in spite of these and similar differences in details of selection and of criteria for cure, etc. the results in the ultra carefully selected and controlled series of Wise and myself were so close to those today that our conclusions were almost verbatim those of the present authors.

In closing I should like to thank Dr. Traub and Dr. Tolmach for devoting their time and energy to further statistical studies with this method and particularly for once again stressing what I think is an extremely important and urgently necessary practical conclusion namely

trichophylin therapy of dermatophytosis and dermatophytids is not at present suitable as a routine or general therapeutic measure. It seems to me that this method stands today precisely where it was when introduced in 1931 that is as Wise and I stated. The method we have employed seems to meet with success in the treatment of a comparatively small number of cases. However these permit the hope that modifications may improve the results.

Dr. Herman Goodman, New York City—Sometime in 1917 I saw a patient in consultation whose lesion on the forehead I diagnosed as tertiary syphilis (gumma). My colleague in this case insisted that the lesion was due to ringworm. A culture was made and organisms recovered. A Wassermann test was made and reported four plus. The lesions disappeared completely under the influence of antisyphilitic intravenous treatment without external applications of any kind.\*

A group of silk handlers who were diagnosed by specialists in skin diseases for the Compensation Bureau of the State Insurance Fund some years ago as having ringworm of the hands were refused industrial compensation. On mature study and after visits to the silk throwing mills, it was determined that the lesions of the hands, which had been diagnosed as ringworm, were due to some element in the solutions used in the factory. This group of patients has since been reported.†

I wish to call attention of the members of this section to the report made by Dr. Irving Marks and me some years ago.

Groups of patients with ringworm clinically and bacteriologically were given intradermal tests with varied combinations of trichophylin vaccines of streptococci, staphylococci, colon, and tuberculin. It was found that some patients reacted to all of these intradermal injections. Other patients responded to none. At the time of reporting these findings there was much discussion as to their validity. I have not found any report in recent literature which contradicts these findings.‡

The next observation concerned 75 women who were completely free of evidence of tinea infection. They were selected because they were not exposed to any obvious industrial or household irritant. This group of women was diagnosed clinically as showing hand lesions which were indistinguishable from those occurring in persons

\* Gumma of the Forehead with Ringworm. J.A.M.A. 79: 200 (1922).

† Silkhandlers' Disease of the Skin, bound with B. Ramazzini Medical Lay Press, New York, 1933.

‡ Reactions to Trichophylin Compared with Reactions to Other Bacterial Products, Arch. Derm. 31: 818 (1933).

with definite ringworm infection. This group of patients indicates that clinical diagnosis is not sufficient to classify patients in a group of trichophytid.\*

My last observation concerns a chemist who was treated by many physicians with topical applications and x-ray to no avail. Although he gave no clinical, microscopic, or cultural evidence of ringworm, this patient was completely cured by the administration of four doses of trichophytin intradermally at intervals of one week, and has remained well for about seven years.

These observations indicate the difficulties which beset the study of ringworm and ringworm reactions.

Dr Paul Gross, *New York City*—I was very much impressed with Drs Traub and Tolmach's paper, and particularly by the unavoidable conclusions about the doubtful value of trichophytin in the treatment of dermatophytosis. It is true, as Dr Lewis said, that the results with trichophytin treatment were good prior to 1930, but this is due to the fact that it was used for those conditions for which it had been devised, namely, deep trichophytosis of the bearded region and kerion celsi. Before we go on to improve our methods with trichophytin treatment, we should first consider the fundamental reasons why fungus infections of the Trichophyton group, which give rise to deep tissue reactions and even systemic symptoms, respond to trichophytin treatment, while eczematoid ringworm (to use Dr Fordyce's name) does not. It seems to me that we have a good parallel in gonorrhea where the cases complicated with acute prostatitis, epididymitis, etc., are an excellent field for vaccine therapy, while the simple urethritis does not respond to the treatment. The desensitizing effect of trichophytin on the trichophytin reaction itself, as pointed out by Dr Sulzberger, is an encouraging fact, but only shows how complicating the problem is even without the assumption of the well-known multiple sensitization in dermatophytosis. That spontaneous immunization can take place is best demonstrated by those cases of dermatophytosis who show extensive dermatophytid reactions with systemic symptoms. I would mention particularly cases with severe involvement of the feet, and lichen trichophytic-like eruption on the body, and secondly, some cases who develop erysipelas-like dermatophytid without recurrences. Such cases at a certain point make a prompt recovery, and can be observed for years without showing any signs of dermatophytosis. Whether experience with

such cases can give us any hope that a real immunity can be produced by some improved technic of trichophytin treatment is at least very doubtful, especially after one has listened to this excellent paper.

Dr Eugene F Traub, *New York City*—The interest displayed, if I may judge by the number of men who discussed the subject, shows that this is a matter of vital interest to all. I am particularly grateful and thankful that there seems to be quite a general agreement with the result as presented in our study.

To answer several of the "discussers," I might say that we realize that the finding of fungi does not necessarily prove the eruption to be a dermatophytosis. The eruption might be a syphilitic one and the fungi might simply be a casual superimposed finding of no significance, on the other hand, the failure to find fungi or the failure to culture fungi, leaves anyone doing experimental work with only a clinical guess in place of a diagnosis. The statistical studies of the vast experimental work done in our various series of cases, to which Dr Sulzberger has repeatedly referred, is no doubt staggering to him when he compares it to his report of 16 cases which he believes were tinea, although he had no proof of the point. As I stressed in the beginning of our presentation, that while the finding of the fungi is most essential, the eruption must also conform to one of the usual types regularly recognized as a manifestation of dermatophytosis. Dr C. M. Williams, who was one of the most careful and painstaking of observers, refused to accept a diagnosis of dermatophytosis in which the presence of the organism could not be proved.

The question concerning the advisability of studying a large series of cases perhaps can best be answered by telling you an experience of Dr Williams. A number of years ago he treated a series of 5 or 6 patients with juvenile flat warts with protoiodide mercury pills. In each case the eruption promptly disappeared. He was inclined to report his experience but thought it best to get a larger series of cases before doing so. Over the next few years he failed to find another case in which he had the slightest response to this type of therapy. Needless to say his report never went to press. No doubt every one else has had a similar experience. Great inaccuracies and misleading reports thus frequently get into the literature where the results of therapeutic experiences are reported on a small series of cases, regardless of how well these cases may have been studied.

The point made about continuing local treatment on cases in which the results of specific

\* Eczema of the Hands, *Amer Med* p 186 (1932)

vaccine therapy is being evaluated is obviously not well taken. We sincerely hope that the local treatment used by the various authors as suggested by Dr Sulzberger was not intended by them to irritate the process but rather was given

with an honest intention to promote improvement. Such being the case, it is naturally utterly impossible to judge the relative value of either the local or the internal treatment when both are employed simultaneously

## PRIZE ESSAYS

of the Medical Society of the State of New York

The Merrit H Cash Prize will be open for competition at the next Annual Meeting of the Medical Society of the State of New York to be held April 24, 1939, in Syracuse, New York

This prize of ONE HUNDRED DOLLARS will be given to the author of the best original essay on some medical or surgical subject.

Competition is limited to the Members of the Medical Society of the State of New York, who at the time of the competition are residents of New York State.

The following conditions must be observed

Essays shall be typewritten or printed and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer

If the Committee considers that no essay or contribution is worthy of the prize, it will not be awarded.

All essays must be presented not later than April 1, 1939, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 2 East 103rd Street, New York City

FRANK B CROSS, M.D., Chairman  
Committee on Prize Essays

## "PAY YOUR DOCTOR WEEK" IN LOS ANGELES

Recognizing the fairly widespread tendency on the part of the public to regard physicians bills as obligations that can wait indefinitely or at least until after all other bills have been paid California Bank Los Angeles during the week of Oct. 31-Nov 5 inaugurated Pay Your Doctor Week, with 3-column 6-inch ads in local daily newspapers and reprints of the ad in approximately 35 000 month-end checking account statements calling attention to the dedicated week and to the bank's personal loan plan for paying physicians and other bills

## UNCLE SAM GROWING OLD AND FOOLISH?

By 1900 the amount of mental disease in the nation will be double what it now is if it progresses at the same rate as at the present Harold F Dorn, statistician of the United States Public Health Service predicts in a survey of the situation published by the federal health service.

Increasing age of the population, and not the stress and strain of modern life is the factor that will double the amount of mental disease in the nation, according to the findings of Mr Dorn

# A STUDY OF INFANT WELFARE IN ST. LAWRENCE COUNTY IN 1935

STANLEY W. SAYER, M.D., Gouverneur, New York

**I**N JULY, 1934, Dr. Thomas Parran, then Commissioner of Health of New York State, addressed letters to the administrative and health authorities as well as to the medical societies of the ten cities and the ten counties which had had consistently higher infant mortality rates than for the state at large, with the purpose of encouraging concentrated efforts to reduce these rates. As a result of this stimulation, the St. Lawrence Medical Society co-operated with the Division of Maternity, Infancy, and Child Hygiene of the New York State Department of Health in a detailed study of all the live births that occurred in the county in 1935. Assistance for this study has also been given by the T. E. R. A. which furnished the services of a physician for four months.

## Method

The study was conducted by means of personal interviews. All the live births between January 1 and December 31, 1935, were followed for a period of twelve months or such part of it as the infant lived. First, a staff physician interviewed the attending physician and recorded the information concerning prenatal care and delivery, at the same time securing the attending physician's permission for home visits by public health nurses. These nurses made periodic visits to the home and recorded the general care given to the infant, the history of the mother's previous pregnancies, and the economic status of the family. They assisted the mothers in carrying out the physician's instructions and attempted to be of service in the promotion of better care for the infants.

## Limitations

The method outlined above, that is, that of following all the births in a given locality for a definite period of time and securing pertinent information for the surviving infants as well as for those who died, is without a doubt the best available method which might throw light on the complex problem of the variations of infant mortality. However, in order to obtain maximum results it is essential to have complete co-operation of all participants in the study. It is of utmost importance that the interval between the birth and the first interview with the physician be as short as possible so that in case the physician does not keep a written record, the case will be fresh in his mind.

It is unfortunate that due to certain administrative complications (arising mostly from the difficulty of securing the services of the T. E. R. A. physician) the study did not get under way until the middle of July so that in many cases the information concerning the births that occurred six or seven months previously was given by memory. Furthermore, the schedule in many instances was not as complete and as clearly worded as might be desired. Moreover, most of the factors which might affect infant mortality are very strongly intercorrelated, so that in order to isolate any required factor and study its effect independently of the other factors a much larger number of births than the one on which this study is based is required. The results of the study must, therefore, be considered merely as indications and suggestions. They must be substantiated by more careful study of a much greater number of births before real significance can be attached to them.

*Read at the Annual Meeting of the Medical Society of the State of New York, New York City, May 12, 1938*

## General Facts Concerning St. Lawrence County

St. Lawrence County is located in the northern part of New York State on the Canadian border. It is predominantly rural. It covers an area of 2,701 square miles and its population, estimated as of July 1, 1935, was 89,549. This gives an average density of 33 persons per square mile compared with an average density of 120 persons per square mile for upstate New York. There is one city in the county (Ogdensburg) with an estimated population of 15,277 and four villages of from 2,500 to 10,000 population.

The principal occupation is agriculture. 32.7 per cent of the male population over 10 years of age in the county being engaged in it compared with 12.5 per cent in upstate New York (1930 census).

Persons of Canadian birth or parentage formed 8.2 per cent of the county's population (1930 census).

The birth rate in the county was considerably higher than in the upstate area. The average rate for the five year period 1931-1935 was 19.3 as against the average rate of 15.0 in the state. The average death rate for the same period was 14.1 in the county and 12.2 in upstate New York. The stillbirth and infant mortality rates were consistently and considerably higher in the county than in the upstate area. The excess in the average rate for the five year period 1931-1935 was over 30 per cent. The county compares most unfavorably with the state in deaths of infants aged one month to one year, the excess in the average rate for the five-year period being 49 per cent. This excess was present for practically all causes. The rate was especially high for the group of gastrointestinal diseases (10.8) which was more than two and one-half times the rate for the upstate area (4.0).

## General Results

Between January 1 and December 31, 1935, there occurred in St. Lawrence County 1,647 live births. For 82 of these births no information could be secured either because the mother moved out of

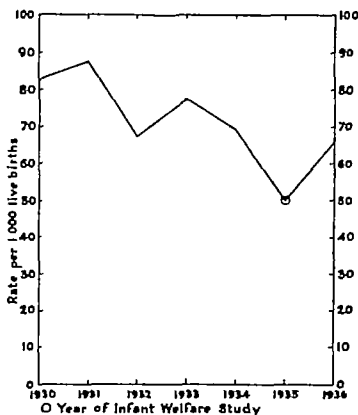


Chart 1—Annual infant mortality rates per 1000 live births, St. Lawrence County 1930-1936

the county (65) or because she could not be located for other reasons (17). This study is concerned, therefore, with the remaining 1,565 infants. Of these, 91 died before reaching their first birthday. The true\* infant mortality rate for the county was, therefore, 58.1 per 1,000 live births.

Infant mortality in the county dropped considerably during the year of study as is shown in the following table.

| YEAR | INFANT MORTALITY RATE |
|------|-----------------------|
| 1930 | 82.9                  |
| 1931 | 87.9                  |
| 1932 | 67.3                  |
| 1933 | 77.6                  |
| 1934 | 69.3                  |
| 1935 | 50.0†                 |
| 1936 | 66.3                  |
| 1937 | 69.8                  |

† The ordinary rather than the true rate is used in the table since the rates for the other years are on the same basis.

This drop in the rate during the year of the study, in a sense, complicates the

\* The true rate differs from that given ordinarily for infant mortality in that it is obtained from the deaths occurring among the infants born in a certain year irrespective of the calendar year in which they died, while the ordinary rate is obtained by dividing the number of deaths occurring in a given year by the number of live births in the same year. The ordinary rate in St. Lawrence County for 1935 was 50.0.



## PRIMARY AND CONTRIBUTORY CAUSES OF INFANT DEATHS, ST LAWRENCE COUNTY—1935

|                           |       | CONTRIBUTORY CAUSE OF DEATHS |                                   |                                       |                                      |  |                        |       |
|---------------------------|-------|------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|--|------------------------|-------|
| PRIMARY CAUSE OF DEATHS   | TOTAL | Pre-<br>ma-<br>ture<br>Birth | Respira-<br>tory<br>Dis-<br>eases | Congen-<br>ital<br>Malfor-<br>mations | Dis-<br>eases<br>of Early<br>infancy | Gastro-<br>intestinal<br>Dis-<br>eases | Other<br>Dis-<br>eases | Total |
| Total                     | 91    | 5                            | 4                                 | 4                                     | 7                                    |  | 11                     | 31    |
| Premature birth           | 27    |                              |                                   | 2                                     | 1                                    |  | 1                      | 4     |
| Respiratory diseases      | 17    |                              | 4                                 |                                       |                                      |  | 7                      | 11    |
| Congenital malformations  | 15    | 2                            |                                   | 2                                     | 2                                    |  |                        | 6     |
| Diseases of early infancy | 13    | 1                            |                                   |                                       |                                      |  | 1                      | 2     |
| Gastrointestinal diseases | 9     |                              |                                   |                                       | 2                                    |  | 2                      | 4     |
| Other diseases            | 10    | 2                            |                                   |                                       | 2                                    |  |                        | 4     |

conclusions that may be drawn from such a study. However, this in itself is an important result especially since it is found to occur also in other studies now carried on in various parts of the state.

### Causes of Death

The primary and contributory causes of death as given on the death certificates are shown in the table above.

Premature birth was given as a primary cause of death in 27 or 30 per cent of the deaths. There were 11 other prematurely born infants who died. In 5 of these, premature birth was given as a contributory cause of death and in the remaining 6, prematurity was not recorded on the death certificate.

It is of interest to note that the death rate from gastrointestinal disease (5.8) was much lower in the year of the study than in previous years and was not higher to a considerable degree than the rate in the state at large.

On only 31 of the 91 death certificates was a secondary cause given. The distribution of these by primary cause is shown in the above table. The group of respiratory diseases had the largest proportion of secondary causes, on 11 of the 17 certificates, a second cause was given. The group of diseases of early infancy was the most common contributory cause accounting for 7 of the 31 secondary causes.

The table on the opposite page gives the distribution of the 91 deaths by age at death and primary cause of death.

More than one-half of the deaths occurred while the infant was less than one month old and more than one-fourth of them occurred in less than twenty-four hours after delivery. Practically all these

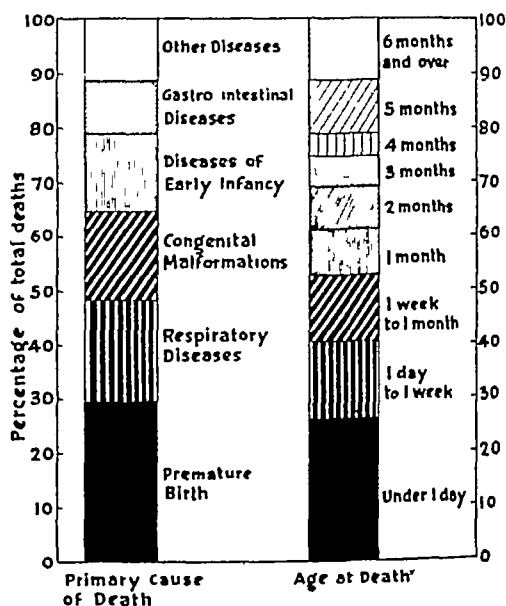


Chart 2—Percentage distribution of infant deaths by primary cause and by age at death, Infant Welfare Study, St. Lawrence County—1935

deaths were recorded as due to premature birth, malformations, and diseases of early infancy. A disproportionate number of deaths occurred when the infant was in its sixth month (a total of 9 deaths, while in the total period of 6 to 11 months, there were only 10 deaths). Six of these infants died from a respiratory disease and one additional had a respiratory disease as a contributory cause. Most of these deaths were due to pneumonia. A checkup of the certificates showed that they were not especially concentrated either in locality or in month of death.

The largest number of deaths occurred in February (14), the lowest number of deaths took place in October (2). Deaths

## INFANT MORTALITY BY AGE AT DEATH AND BY PRIMARY CAUSE OF DEATH, ST LAWRENCE COUNTY—1935

| AGE AT DEATH        | TOTAL | PERCENTAGE<br>OF TOTAL<br>DEATHS | PRIMARY CAUSE OF DEATH |                         |                    |                  |                                   |                   |
|---------------------|-------|----------------------------------|------------------------|-------------------------|--------------------|------------------|-----------------------------------|-------------------|
|                     |       |                                  | Premature<br>Birth     | Respiratory<br>Diseases | Malfor-<br>mations | Early<br>Infancy | Gastro-<br>intestinal<br>Diseases | Other<br>Diseases |
| Under 1 day         | 24    | 20.4                             | 10                     |                         | 3                  | 6                |                                   |                   |
| 1 day to 1 week     | 13    | 14.3                             | 5                      | 1                       | 4                  | 3                |                                   |                   |
| 1 week to 1 month   | 11    | 12.1                             | 3                      |                         | 4                  | 2                | 1                                 | 1                 |
| Total under 1 month | 48    | 52.7                             | 21                     | 1                       | 11                 | 10               | 1                                 | 1                 |
| 1 month             | 8     | 8.8                              | 1                      | 2                       | 1                  |                  | 1                                 | 1                 |
| 2 months            | 7     | 7.7                              | 1                      | 1                       | 1                  | 2                | 3                                 | 1                 |
| 3 months            | 5     | 5.5                              |                        |                         | 1                  |                  |                                   | 3                 |
| 4 months            | 4     | 4.4                              |                        | 1                       | 1                  |                  | 1                                 | 1                 |
| 5 months            | 9     | 9.9                              |                        | 6                       |                    |                  | 2                                 | 1                 |
| 6 months and over   | 10    | 11.0                             |                        | 6                       |                    | 1                | 1                                 | 2                 |
| Total               | 91    | 100.0                            | 27                     | 17                      | 15                 | 13               | 9                                 | 10                |

from respiratory diseases were concentrated in the winter and spring while those from gastrointestinal diseases were more frequent in the summer months. Infants born in December had the highest death rate (100.8), those born in May, the lowest (33.6).

### Place of Birth

There was no significant difference in the infant mortality rate for the rural and urban residents. However, when the rural births were classified according to whether they were easily accessible (type of roads and distance from nearest physician) or inaccessible, the rate for the latter (85.9) was higher than that for the easily accessible group (47.1).

Two out of every three births in St. Lawrence County occurred at home while only 39 per cent of the births in upstate New York were home births. The infant mortality rates for home and hospital births do not differ significantly. However, when the hospital births were classified by residence of mother, whether it was in the same or in a different town than the hospital, the rate for the latter was significantly high.

### INFANT MORTALITY FOR HOSPITAL BIRTHS BY RESIDENCE OF MOTHER

| RESIDENCE OF MOTHER          | BIRTHS | DEATHS | RATE* |
|------------------------------|--------|--------|-------|
| Same town as hospital        | 316    | 12     | 38    |
| Different town than hospital | 194    | 17     | 88    |

\* Per 1,000 live births.

This cannot be explained entirely by the fact that the more difficult deliveries are

hospitalized. Since the excess of the deaths occur mostly from respiratory, gastrointestinal, and other causes which are presumably less affected by difficult delivery than the group of premature birth malformations, and diseases of early infancy.

The figures, however, are too small to allow valid conclusions and a study of this point for all the births in the state is being done now by the Division of Maternity, Infancy, and Child Hygiene of the State Department of Health.

### Age of Mother, Order of Birth, and Racial Stock

The welfare of infants is known to depend to a considerable degree on the order of birth, the size of the family, and age of the mother. These factors are strongly intercorrelated and because of the small number of births on which this study is based, only a crude analysis measuring their combined effect is possible.

The women of childbearing age in St. Lawrence County are on the whole younger than in upstate New York. A comparison of the age distribution of the mothers of the 1935 infants in St. Lawrence County and upstate New York shows that the women in St. Lawrence County began bearing children on an average sooner and continue to bear them for a longer period than the women in upstate New York with result that the size of the family must be much larger in St. Lawrence County. A rough estimate shows that the average number of children in a completed fruitful family in St. Lawrence County is 3.9 while in the up

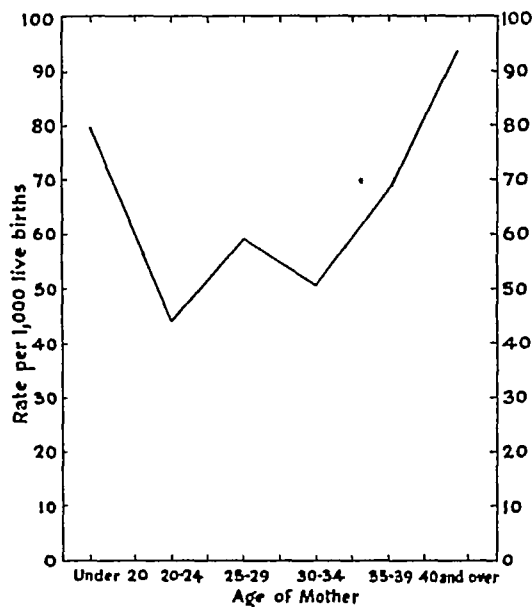


Chart 3 —Infant mortality rates per 1,000 live births by age of mother, Infant Welfare Study, St Lawrence County—1935

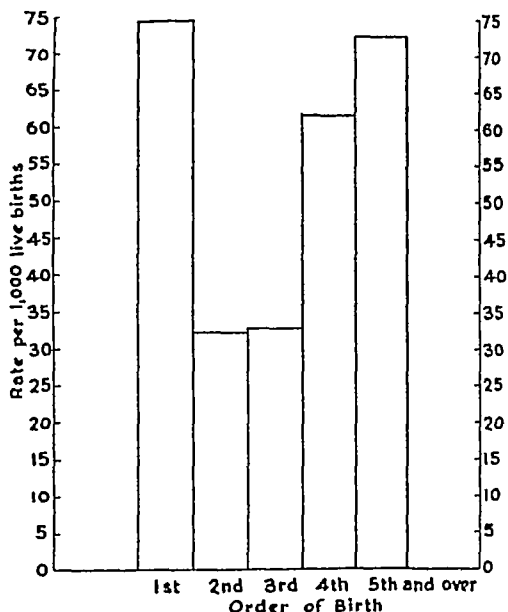


Chart 4 —Infant mortality rates per 1,000 live births by order of birth, Infant Welfare Study, St Lawrence County—1935

state area it is only 2.8. The following tables showed infant mortality rates by age of mother and order of birth.

It will be noticed that the rate starts high for first births as well as for young mothers. There was a drop to a minimum for second births as well as for mothers aged 20 to 24. From then there was a continuous rise in mortality with order of birth as well as with age of

mother. This is in agreement with other studies on this point.

The presence in St Lawrence County of a considerable number of French-Canadians presented the possibility of determining whether there is a considerable variation of infant mortality by racial stock. The results show that although there is a very slight increase in the rate for the infants of the French-Canadian stock, it is not of a significant magnitude.

INFANT MORTALITY BY AGE OF MOTHER, ST LAWRENCE COUNTY—1935

| AGE OF MOTHER  | BIRTHS | DEATHS | RATE* |
|----------------|--------|--------|-------|
| Under 20 years | 175    | 14     | 80.0  |
| 20-24 years    | 471    | 21     | 44.6  |
| 25-29 years    | 407    | 24     | 59.0  |
| 30-34 years    | 276    | 14     | 50.7  |
| 35-39 years    | 161    | 11     | 68.3  |
| 40-44 years    | 71     | 7      | 98.6  |
| 45-49 years    | 4      |        |       |

\* Per 1,000 live births

INFANT MORTALITY BY ORDER OF BIRTH, ST LAWRENCE COUNTY—1935

| ORDER OF BIRTH | BIRTHS | DEATHS | RATE† |
|----------------|--------|--------|-------|
| 1st            | 402    | 30     | 74.6  |
| 2nd            | 310    | 10     | 32.3  |
| 3rd            | 230    | 8      | 33.9  |
| 4th            | 162    | 10     | 61.7  |
| 5 and over     | 455    | 33     | 72.5  |

† Per 1,000 live births

### History of Previous Pregnancies

The history of mothers' previous pregnancies had a great effect on the chances of survival of the infants born in 1935 as is shown in the following table.

INFANT MORTALITY RATES BY HISTORY OF PREVIOUS PREGNANCIES

|              | PREVIOUS STILL-BIRTH | PREVIOUS MIS-CARRIAGES | PREVIOUS INFANT DEATHS | COMP IN PREVIOUS PREGNANCIES |
|--------------|----------------------|------------------------|------------------------|------------------------------|
| None         | 44.4                 | 46.7                   | 44.4                   | 41.4                         |
| At least one | 101.4                | 145.5                  | 72.9                   | 69.0                         |

Infants born to mothers who have had previously at least one stillbirth or a mis-

## INFANT MORTALITY BY MONTH OF MOTHER'S FIRST VISIT TO PHYSICIAN FOR PRENATAL CARE ST LAWRENCE COUNTY—1935

| MONTH OF FIRST VISIT   | BIRTHS | PERCENTAGE OF TOTAL | DEATHS | RATES* |
|------------------------|--------|---------------------|--------|--------|
| No visits              | 274    | 17.5                | 23     | 83.9   |
| 1st month of pregnancy | 24     | 1.5                 | 1      |        |
| 2nd month of pregnancy | 120    | 7.7                 | 9      | 75.0   |
| 3rd month of pregnancy | 190    | 12.1                | 9      | 47.4   |
| 4th month of pregnancy | 162    | 10.4                | 12     | 74.1   |
| 5th month of pregnancy | 247    | 15.8                | 17     | 68.8   |
| 6th month of pregnancy | 180    | 10.2                | 6      | 37.7   |
| 7th month of pregnancy | 187    | 11.9                | 11     | 58.8   |
| 8th month of pregnancy | 162    | 10.4                | 3      | 18.5   |
| 9th month of pregnancy | 40     | 2.6                 |        |        |

\* Per 1,000 live births.

carnage or a child who died in infancy, or, if they had some complication in a previous pregnancy, had a considerably higher mortality than the infants of mothers who had had no such complications.

The mothers of the 1,565 infants had 4,041 previous pregnancies. The number of stillbirths was 47.8 per 1,000 total births and 68.5 per 1,000 live births died in infancy.

Of the 3,957 previous deliveries which terminated either in a live or stillbirth, 78 per cent were home deliveries, for 12 per cent of them instruments were used, and for 55 per cent of them the mother stated that she had had some prenatal care be-

ginning at least with the seventh month of pregnancy.

The advantage of prenatal care may be seen from the fact that the infants of the mothers who had had prenatal care had a stillbirth rate of 34.5 and an infant mortality rate of 53.3 as against a stillbirth rate of 64.0 and an infant mortality rate of 82.0 for infants of mothers who had no prenatal care.

### Prenatal Care

The table above shows the distribution of births and infant deaths by the month of pregnancy in which the mother first visited her physician.

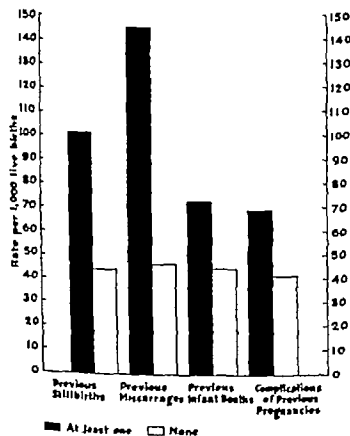


Chart 5—Infant mortality rates per 1,000 live births by history of previous pregnancies, Infant Welfare Study St. Lawrence County—1935

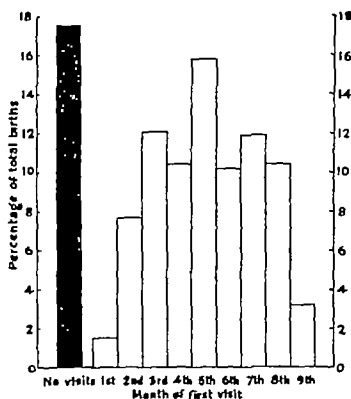


Chart 6—Percentage distribution of births by month of mother's first visit to physician for prenatal care Infant Welfare Study St. Lawrence County—1935.

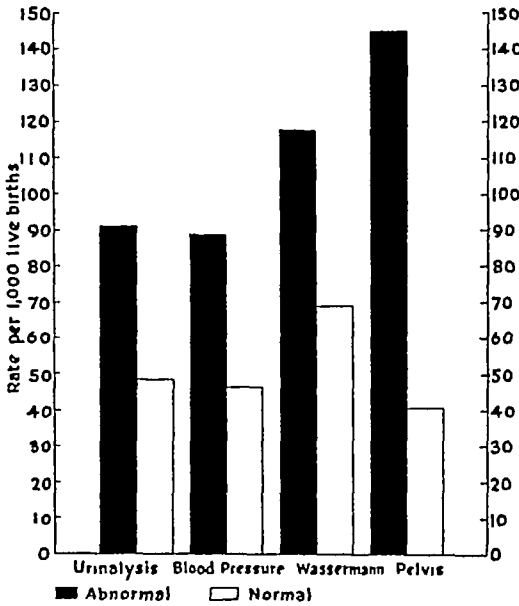


Chart 7—Infant mortality rates per 1,000 live births by results of physical examination, Infant Welfare Study, St. Lawrence Co.

Nearly 18 per cent of the mothers did not go to a physician before delivery. An additional 25 per cent did not see a physician before the seventh month of pregnancy. The 274 infants whose mothers did not visit a physician during pregnancy had a mortality rate of 83.9 compared with the rate of 52.7 for all the other infants. The comparatively low rate of infants whose mothers did not visit a physician until the late months of pregnancy is due to the fact that they consist of full term infants only, the premature infants having been eliminated in the previous months.

The type of care that the physicians in St. Lawrence County gave to the 1,291 expectant mothers who visited them during pregnancy can be seen in the following: in 92 per cent of the cases, urinalysis was stated to have been done, 89 per cent was stated to have had their blood pressure taken, 64 per cent were known to have had pelvic measurements taken, however, only 21 per cent of primiparae did not have these measurements taken, and only 8 per cent were stated to have had a Wassermann test.

The proportion of abnormalities observed in those stated to have had ex-

aminations made were as follows: Wassermann, 16.3 per cent, blood pressure, 12.6 per cent, urinalysis, 8.3 per cent, pelvis, 8.3 per cent. The difference in infant mortality in the normal and abnormal groups as shown in the following table is striking, although they are based in some instances on a rather small number of births.

INFANT MORTALITY RATES BY RESULTS OF PHYSICAL EXAMINATION

|          | URINALYSIS | BLOOD PRESSURE | WASSERMANN | PELVIS |
|----------|------------|----------------|------------|--------|
| Normal   | 48.6       | 46.6           | 69.0       | 40.8   |
| Abnormal | 90.9       | 89.0           | 117.6      | 144.9  |

### Complications of Last Pregnancy

Of the 1,315 mothers for whom this item was recorded, 271 or 21 per cent had complications during their last pregnancy. The total number of complications reported was 349 of which 194 were puerperal in nature and 151 nonpuerperal. The most frequent puerperal complication was mild toxemia and edema (80) followed by hemorrhage (28). In the nonpuerperal the most common complication was chronic organic conditions (43), followed by mental and nervous conditions (24).

The mortality of infants whose mothers had complications during pregnancy was four times as high as that of infants whose mothers had no complications, the rates being 136.5 and 33.5, respectively. The excess was mainly due to prematurity as seen from the table on the opposite page.

### Labor and Delivery

In 80 per cent of the births, labor and delivery were spontaneous. In 16 per cent of them forceps were used. There were 13 deliveries by caesarean operation, 12 were version extraction, and 35 were breech presentations.

Mortality for version was highest. Four of the 12 infants thus delivered died. High forceps came next with 3 deaths out of 12. Two of the 13 infants delivered by caesarean operation died and 4 of the 35 breech presentations.

## CAUSES OF INFANT DEATHS BY COMPLICATIONS DURING PREGNANCY

|                             | TOTAL | PER<br>MATURE | EARLY<br>INFANCY | MALFOR-<br>MATIONS | RESPIRA-<br>TORY | GASTRO-<br>INTESTINAL | OTHER |
|-----------------------------|-------|---------------|------------------|--------------------|------------------|-----------------------|-------|
| Mother had complications    | 37    | 10            | 7                | 3                  | 6                | 2                     | 3     |
| Mother had no complications | 35    | 5             | 3                | 11                 | 8                | 4                     | 4     |

On only 16 births was it stated that labor was induced. Of these, 2 infants died. It is of interest to note that 13 of these deliveries were operative.

The average duration of labor was 8.8 hours.

The average weight at birth was 7 lbs. There were 67 infants weighing less than 5 lbs. of whom 30 died. The lowest infant mortality was recorded for infants weighing 8 lbs. (31.0).

The following table shows the distribution of births and deaths resulting from them by period of gestation.

INFANT MORTALITY BY PERIOD OF GESTATION ST LAWRENCE COUNTY—1935

| PERIOD OF<br>GESTATION | BIRTHS | DEATHS | RATE* |
|------------------------|--------|--------|-------|
| Full term              | 1,408  | 53     | 35.4  |
| Premature (total)      | 69     | 38     | 550.7 |
| 6 months or less       | 18     | 14     | 777.8 |
| 7 months               | 27     | 21     | 777.8 |
| 8 months               | 24     | 3      | 125.0 |

\* Per 1,000 live births.

There were 69 infants born prematurely of whom 38 died. The infant mortality for premature infants was 550.7 as compared with a mortality of 35.4 for full-term infants. Thus, if all infants were carried to full term, the total infant mortality would be reduced by over 40 per cent.

For only a small number of births was the condition at birth given as fair or poor. Of the 41 births whose condition was given as fair, 10 died and 33 of the 50 infants born in "poor" condition eventually died. A larger proportion of these infants than of the infants born in good condition were first births. The respective proportions of first births were 37 per cent for the "fair" group, 34 per cent for the "poor" group, and 26 per cent for the total. Similarly, a larger proportion of the fair and poor groups were prematurely born. The respective percentages were 44 for "fair," 52 for "poor," and 4 for total. Also the

proportion of mothers with abnormal pelvis was much higher for the "poor" group than for total. The respective percentages were 33 and 9.

For 175, or 11 per cent of the infants some unusual condition at birth was noted on the schedule. The number of such conditions was 242 as shown in the following table.

UNUSUAL CONDITIONS OF CHILD AT BIRTH ST LAWRENCE COUNTY—1935

| UNUSUAL CONDITIONS             | BIRTHS | DEATHS |
|--------------------------------|--------|--------|
| Cyanosis                       | 54     | 27     |
| Premature                      | 69     | 38     |
| Birth injury                   | 20     | 4      |
| Multiple birth                 | 27     | 5      |
| Artificial respiration         | 10     | 1      |
| Jaundice                       | 10     | 3      |
| Hernia                         | 21     | 2      |
| Congenital heart malformations | 4      | 3      |
| Other congenital malformations | 11     | 0      |
| Monstrosity                    | 2      | 2      |
| Other unusual conditions       | 14     | 4      |

The mortality of these infants was much higher than for the infants presenting no unusual condition at birth. The respective rates were 337.1 and 22.9. One half of the cyanotic infants and over one-half of the premature infants died in infancy.

### Care of Infant

The information required on the schedule concerning the care of the infant in his first year of life consisted of the following items: when seen by physician, how many months was the infant breast fed, when did artificial feeding begin, reason for weaning, kind of milk used, the use of cod liver oil, orange or tomato juices, cereals, and vegetables, number of visits by the public health nurse, gain in weight, feeding supervision by physician, bowel habits and the use of laxatives.

Since there was no question on the schedule concerning illnesses, and since the question with respect to physician's visits and supervision of feeding were not definite enough, it is impossible to determine whether these visits were for the purpose of check up or due to illnesses of

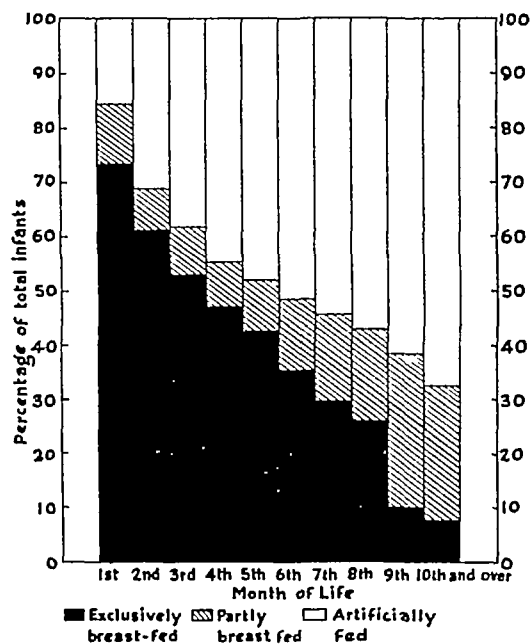


Chart 8—Percentage distribution of infants by type of feeding and month of life, Infant Welfare Study, St. Lawrence County—1935

the infant. This seems to explain the reason why the rate for infants whose feeding was supervised by a physician (43.1) was higher than the rate for the group of infants whose feeding was not supervised (19.3). Similarly, little significance can be placed on the answers to the questions of gain in weight, bowel habits, and the use of laxatives either because the question was not stated conclusively enough or because of the incomplete answers.

*Type of Feeding*—A number of studies have shown that breast-fed infants have tremendous advantages in terms of their infant mortality rate and the incidence of various diseases over those artificially fed. It is probably true that breast feeding is very advantageous for the infant. However, the differences in the rates are not of such high order of magnitude as most of the studies indicate. The reason is that in almost all of the studies the group of the artificially fed and the group of the breast-fed infants are not strictly comparable. The group of artificially fed infants contains a number who are artificially fed because they are unable to nurse due to a weakening condition at

birth (mostly premature). The mortality in this group is, of course, very high. Moreover, a number of them are weaned because they are doing poorly on breast feeding. These two reasons tend to raise the mortality of the artificially fed group. A careful study of this question can be made only when all the pertinent factors are taken account of. Thus it is impossible to do with the small number of births on which this study is based. It is hoped when the results of the studies now carried on throughout the state are accumulated, a more thorough study of this point will be made.

The following table gives the percentage distribution of the infants by the type of feeding they received in the various months of their lives.

PERCENTAGE DISTRIBUTION OF INFANTS BY TYPE OF FEEDING AND MONTH OF LIFE

| MONTH OF LIFE | EXCLUSIVELY BREAST FED DURING SPECIFIED MONTH | PARTLY BREAST FED DURING SPECIFIED MONTH | ARTIFICIALLY FED DURING SPECIFIED MONTH |
|---------------|---|--|---|
| 1st           | 73.5  | 11.0                                     | 15.5                                    |
| 2nd           | 61.2  | 7.7                                      | 31.1                                    |
| 3rd           | 53.2  | 8.7                                      | 38.1                                    |
| 4th           | 47.2  | 8.4                                      | 44.4                                    |
| 5th           | 42.7  | 9.3                                      | 48.0                                    |
| 6th           | 35.6  | 13.1                                     | 51.3                                    |
| 7th           | 28.8  | 16.0                                     | 54.2                                    |
| 8th           | 26.1  | 16.8                                     | 57.1                                    |
| 9th           | 20.1  | 18.0                                     | 61.3                                    |
| 10th and over | 7.8   | 24.9                                     | 67.3                                    |

Three out of every four infants were breast fed for the first month of their lives. The proportion of exclusively breast-fed infants dropped with the age of infants so that when they were 6 months old only a little over a third of them and at age 10 to 12 months only 8 per cent of them were fed only breast milk. The group that was only partly breast fed formed an essentially constant proportion up to the sixth month of life and rose gradually thereafter. The percentage of the artificially fed group rose sharply at the second month from 16 per cent to 31 per cent and from then on rose continuously. At the age of 6 months a little over one-half of the infants were artificially fed and toward the end of the first year of life, the proportion rose to over two-thirds.

Out of the total number of months lived

MONTHLY INFANT MORTALITY RATES BY TYPE OF FEEDING

| MONTHS OF LIFE | EXCLUSIVELY BREAST FED |        |      | PARTLY BREAST FED |        |      | ARTIFICIALLY FED |        |      |
|----------------|------------------------|--------|------|-------------------|--------|------|------------------|--------|------|
|                | No.                    | Deaths | Rate | No.               | Deaths | Rate | No.              | Deaths | Rate |
| 1st            | 110                    | 0      | 0.0  | 167               |        |      | 237              | 5      | 21.1 |
| 2nd            | 925                    | 2      | 2.2  | 116               | 1      | 8.6  | 489              | 5      | 10.7 |
| 3rd            | 800                    |        |      | 130               | 1      | 7.7  | 572              | 5      | 8.7  |
| 4th            | 706                    |        |      | 125               |        |      | 665              | 5      | 7.6  |
| 5th            | 636                    |        |      | 138               |        |      | 717              | 3      | 4.2  |
| 6th            | 530                    | 4      | 7.5  | 195               | 1      | 5.1  | 763              | 4      | 5.2  |
| 7th            | 440                    |        |      | 237               |        |      | 802              | 2      | 2.5  |
| 8th            | 386                    |        |      | 248               |        |      | 843              | 2      | 2.4  |
| 9th            | 206                    |        |      | 374               |        |      | 905              |        |      |
| 10th and over  | 115                    | 1      | 8.7  | 307               |        |      | 993              | 4      | 4.0  |

by the infants a little over a third were exclusively breast fed, about one-sixth were partly breast fed, and one-half of them were exclusively artificially fed.

The table above shows the infant mortality rates for the above three groups. It shows for each month of life the number of infants who took the specified feeding during that month and the deaths that resulted among them.

The rate for the artificially fed group during the first month of life is considerably higher than for the breast-fed group. The figures are not large enough for comparison of the other monthly rates. It is in the accumulated experience of the various months that the advantage of breast feeding appears. In the period from the second to the ninth month, inclusive, there were 4,719 months of exclusive breast feeding, 1,463 months of mixed feeding, and 5,736 months of exclusively artificial feeding. There were six deaths in the first group, three in the second, and twenty six in the third. The corresponding rates per 1,000 months were 1.27, 2.10, and 4.53. Thus, roughly, the rate for the artificially fed group was 3.6 times that of the breast fed group.

Only a little over one-fourth of the infants used pasteurized milk while nearly one-half of them drank raw milk. The death rate for the latter was slightly but not significantly higher than for the former.

A negligible proportion of the infants received cod liver oil or fruit juices early enough. Only 27 per cent of the infants had these foods for six or more months of the first 12 months of their lives. Over one third of the infants had no cod liver oil at all. Another third had a very inadequate amount of it.

### Economic Factors

The questions on the schedule concerning the economic condition of the family consisted of the following: a general statement as to the apparent economic status rated by a nurse as "good," "fair," and "poor"; the presence of a bathroom in the house, crowding, cleanliness, and ventilation, the kind of water supply, the occupation and employment status of father and relief status of the family. Most of the questions requested the opinion of the nurse and as such are subject to variation in personal judgment. On the whole the study confirms the results of other surveys: infant mortality rises with poorer economic conditions.

The following table gives the distribution of infants and the infant mortality rates by economic status of the family for full term and premature infants.

Those in "good" economic condition form 21 per cent of the total, 42 per cent were in the "fair" group, and 35 per cent were in poor economic status. The infant mortality rate was lowest for the group

INFANT MORTALITY BY ECONOMIC STATUS FOR FULL-TERM AND PREMATURE INFANTS

| ECONOMIC STATUS | BIRTHS | PERCENTAGE OF TOTAL BIRTHS | INFANT MORTALITY RATES |                   |                   |
|-----------------|--------|----------------------------|------------------------|-------------------|-------------------|
|                 |        |                            | Total                  | Full Term Infants | Premature Infants |
| Good            | 320    | 20.8                       | 33.8                   | 12.3              | 21.5              |
| Fair            | 661    | 43.3                       | 43.9                   | 30.3              | 13.6              |
| Poor            | 551    | 35.2                       | 78.1                   | 47.2              | 30.9              |
| Not stated      | 27     | 1.7                        |                        |                   |                   |



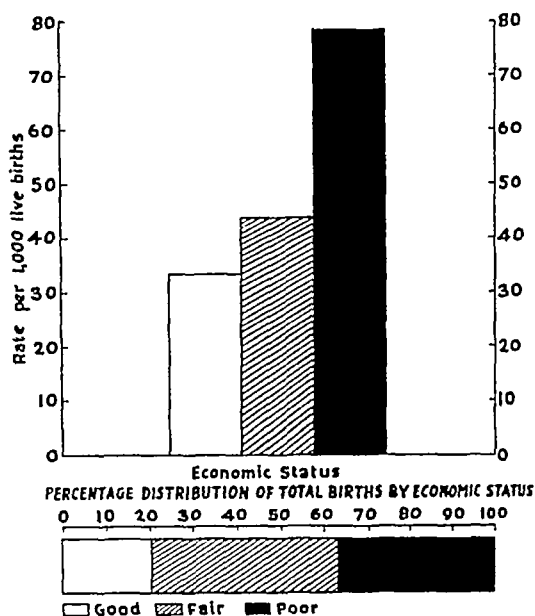


Chart 9—Infant mortality per 1,000 live births by economic status, Infant Welfare Study, St Lawrence County—1935

in "good" economic condition. The rate in the "fair" group was 40 per cent higher than that of the "good" group. Infants born in families of "poor" economic condition suffered a risk of death which was over two times as high as those born in "good" economic condition.

The variations of infant mortality with economic status were due almost entirely to full-term infants. In fact, after the "fair" and "poor" groups are combined for the premature infants, the rate for this total group is the same as that for the group in "good" economic condition, while the mortality for combined group of "fair" and "poor" among the full-term infants was three times as high as that in the "good" economic condition.

This is not surprising since the premature infants die at an early age and are, therefore, not subject to the environment of the family and to the discrepancies in care to the same degree as the full-term infants are.

The same remarks apply for the other factors which are closely associated with economic condition, such as presence of bathroom, water supply, ventilation, crowding, and cleanliness.

The table on the opposite page gives the distribution of infants and infant mortality rates by occupation of father for full-term and premature infants.

The largest group of fathers consisted of unskilled laborers who formed 42 per cent of all fathers. Farmers were next with 21 per cent. Skilled workers formed 13 per cent of the total. Infant mortality was lowest for infants of farmers followed by infants of skilled workers.

The groups of skilled and unskilled workers show a remarkable difference with respect to full-term and premature infants, for while the infant mortality for full-term infants is considerably higher for the unskilled group, the reverse is true for premature infants. However, the figures are much too small for any valid conclusions. Only a little over a half of the fathers were employed full time, an additional 18 per cent were employed part time, and 16 per cent were on work relief. Nearly one-third of the families were receiving home relief. Emergency relief provided prenatal care for 19 per cent of the families. The infant mortality in the group receiving relief (67.5) was considerably higher than for the families not receiving relief (46.7).

### Illnesses of Child

The schedule did not include a specific question about illnesses of child. There was one question which read "illnesses prior to that causing death" and it referred, therefore, only to infants who died. However, on many of the schedules under "remarks" the nurse noted some illnesses. It is felt that the item was not filled out completely. This was substantiated by a check of the files of the Division of Communicable Diseases which revealed a number of names of infants of the study on whose schedule no mention was made of disease.

Of the 1,474 surviving infants, 531 or 36 per cent were recorded to have had at least one illness. On the bulk of the remaining 943 schedules no mention of any illness was made but there was no statement that the infants completed the year without being ill. The 531 children

**INFANT MORTALITY BY OCCUPATION OF FATHER FOR FULL AND PREMATURE INFANTS  
ST. LAWRENCE COUNTY—1935**

| FATHER & OCCUPATION           | BIRTHS | PERCENTAGE<br>OF TOTAL<br>BIRTHS | INFANT MORTALITY RATES |                      |                      |
|-------------------------------|--------|----------------------------------|------------------------|----------------------|----------------------|
|                               |        |                                  | Total                  | Full Term<br>Infants | Premature<br>Infants |
| Farmer                        | 331    | 21.2                             | 42.3                   | 27.2                 | 15.1                 |
| Skilled worker                | 195    | 12.5                             | 46.2                   | 10.3                 | 35.9                 |
| Unskilled worker              | 664    | 42.3                             | 52.8                   | 27.7                 | 15.1                 |
| Tradesman, employed by others | 109    | 7.0                              | 85.0                   | 27.5                 | 27.5                 |
| Tradesman, own business       | 45     | 3.1                              | *                      | *                    | *                    |
| Professional                  | 44     | 2.8                              | *                      | *                    | *                    |
| Others                        | 23     | 1.5                              | *                      | *                    | *                    |
| Father deceased, ill or child |        |                                  |                        |                      |                      |
| Illegitimate                  | 35     | 2.2                              | *                      | *                    | *                    |
| No occupation                 | 22     | 1.4                              | *                      | *                    | *                    |
| Not stated                    | 94     | 6.0                              | *                      | *                    | *                    |

\* Rate not computed if number of births in the group is less than 100

stated to have been ill had 732 infections or 1.38 infections per ill child. There were 166 infants or 31 per cent of those reported ill who had more than one illness or had a repetition of the same illness.

Since the date of illness was generally not stated, it was not possible to show the prevalence rate by the type of feeding at the time of illness. Comparing the whole, however, the group that was not breast fed at all with that which was breast fed at least one month, it was noticed that the infants who were artificially fed from the start were ill more often. This was true for all causes except respiratory diseases. The difference in the rate was slight. Infants using raw cow's milk had a higher prevalence of practically all causes than those using pasteurized milk.

The incidence of disease was much greater in the rural than in the urban part of the county.

There is little difference in the rates for the two sexes. However, it is noteworthy that while males had a slightly higher incidence for most causes, the reverse is true for communicable diseases in which group the female incidence was higher.

### Maternal Deaths

There were nine mothers who died before their infants were one year old. The infants of these mothers all survived. The interval between date of delivery and date of death was as follows:

#### MATERNAL DEATHS BY INTERVAL AFTER DELIVERY

| INTERVAL      | NUMBER OF<br>DEATHS |
|---------------|---------------------|
| Under 1 month | 5                   |
| 1 month       | 1                   |
| 2 months      | 1                   |
| 7 months      | 1                   |
| 8 months      | 1                   |

On four of the death certificates of the five mothers who died in less than one month after delivery, puerperal causes were given as primary and on the fifth, the puerperal cause was secondary to chronic nephritis. On the other four certificates no mention was made of the delivery. Two mothers, one dying at six weeks and the other at nine weeks after delivery, died of pneumonia. One of the remaining two mothers died of acute endocarditis and the other of disease of the pancreas.

Three of the mothers who died were primiparae. Their ages were 16, 17, (an illegitimate birth), and 20. Three others had had 13 or more pregnancies. Three mothers had had a total of 7 previous stillbirths and 5 infant deaths. Their ages were 35, 40, and 41.

Some pertinent facts concerning the history of the mothers who died is presented in the table on page 326.

### Summary

1 The infant mortality rate dropped during the year of study and has not returned to previous high rate.

2 Prenatal care favorably influenced infant mortality rates. Previous infant deaths and stillbirths increased likelihood of higher rates.

3 Mortality rate was higher in families in poor economic state than in good.

4 Racial stock, especially French Canadian apparently had little influence on rate.

5 Infants born in hospitals located in different town than mother's residence had higher mortality rate than infants born in same town as mother's residence.

HISTORY OF PREGNANCY AND DELIVERY OF MATERNAL DEATHS  
ST LAWRENCE COUNTY—1935

| BIRTH<br>CER-<br>TIFI-<br>CATE<br>NUM-<br>BER | MONTH<br>OF<br>DELIVERY | MONTH<br>OF<br>DEATH | INTER-<br>VAL<br>BE-<br>TWEEN<br>DE-<br>LIVERY<br>AND<br>DEATH | PRIMARY<br>CAUSE<br>OF<br>DEATH | CONTRI-<br>BUTORY<br>CAUSE<br>OF<br>DEATH  | AGE<br>AT<br>DEATH | NO<br>OF<br>PRE-<br>NAN-<br>CIES | NO<br>OF<br>PRE-<br>VIOUS<br>STILL-<br>BIRTHS | NO<br>OF<br>PRE-<br>VIOUS<br>INFANT<br>DEATHS | TYPE<br>OF<br>DE-<br>LIVERY | PRENATAL<br>CARE<br>LAST<br>PRE-<br>G-<br>NANCY |
|---|-------------------------|----------------------|--|---------------------------------|--|--------------------|----------------------------------|---|---|-----------------------------|---|
| 55,446  | August                  | August               | Under 1<br>day   | Placenta<br>prævia              | Chronic myo-<br>carditis                   | 40                 | 13                               | 1   | 1   | Breech                      | None  |
| 81 970  | December                | December             | 1 week   | Puerperal<br>septic-<br>cemia   |  | 20                 | 1                                |   |   | LOP                         | Not<br>stated                                   |
| 48,086  | July                    | August               | 2 weeks  | Chronic<br>nephritis            | Other acci-<br>dents of<br>child-<br>birth | 41                 | 17                               |   | 4   | Normal                      | 7th month                                       |
| 82,044*                                       | December                | January              | 3 weeks  | Puerperal<br>septic-<br>cemia   | Acute tox-<br>emia                         | 17                 | 1                                |   |   | Breech                      | None  |
| 69,279  | October                 | November             | 1 month  | Puerperal<br>septic-<br>cemia   | Thrombosis<br>of lung                      | 10                 | 1                                |   |   | Normal                      | 1 visit<br>5th<br>month                         |
| 20,239  | April                   | June                 | 6 weeks  | Lobar pneu-<br>monia            |  | 35                 | 14                               | 0   |   | Normal                      | 5th month                                       |
| 11,929  | February                | May                  | 9 weeks  | Broncho<br>pneumo-<br>nia       |  | 47                 | 7                                |   |   | Not<br>stated               | 8th month                                       |
| 55,486  | August                  | April                | 7 months   | Diseases of<br>pancreas         |  | 42                 | 0                                | 1   | 1   | Normal                      | Not<br>stated                                   |
| 26,163  | April                   | January              | 9 months   | Acute endo-<br>carditis         | Myocarditis                                | 23                 | 3                                |   |   | Normal                      | 4th month                                       |

\* Illegitimate

## Discussion

Dr Leo F Schiff, *Plattsburg*—A study similar to the one in St. Lawrence County was conducted in Clinton County for all live births in 1935. The two counties are very similar in many respects. They are close together in geographical location, have approximately the same composition of population, and both have had consistently high infant mortality rates. Unfortunately, the study in Clinton County was not begun until the late months of 1935, continuing through 1936, and was to a great extent retroactive, the information about most of the infants being obtained almost a year after birth. The investigation was done mostly by local nursing personnel who were not especially trained for this work nor thoroughly conversant with the purpose of the investigation, and the forms often were filled out rather routinely without sufficient questioning, and as a matter of fact the actual form of the questionnaire could have been improved upon. It is interesting to note that even under these conditions the infant mortality rate in the county dropped to its lowest point (below 60) during 1936, the year in which most of the nurses' visits were made in following up the survey, and that the following year, after completion of the study and the extra visits, the rate, as in St. Lawrence County, rose again to its former level. Since we have been told of the same results in other localities where studies of this sort were inaugurated, we may rule out the possibility of the reduction being accidental. We may

also reasonably conclude that such studies to be effective should continue for more than just one year. The Clinton County study was based on 1,021 live births, of whom 78 died under one year of age, giving a true infant mortality rate of 76.4.

The influence of age of mother and order of birth upon infant mortality was shown in the Clinton County study as in the one in St. Lawrence County, the rate being high for young mothers, at a minimum at ages 20 to 24, and increasing thereafter. Infants born to mothers who had previously had an infant death in the family showed a higher mortality than those in other families. Again the Clinton County study agrees, as might be expected, with that of St. Lawrence County in the influence of abnormalities in the mother during pregnancy on infant mortality. Prenatal care was far from ideal. The proportion of physicians taking Wassermanns as a routine in pregnancy was low in Clinton County, as it was in St. Lawrence County. The mortality of infants where the mother did not see a physician until the time of delivery was much higher than that of infants whose mothers had received prenatal care. There was the same high proportion of premature births and high mortality rate of prematurely born infants.

In reviewing the findings in the two counties, even though the surveys were not as complete or as long-continued as they might have been, certain points, nevertheless, stand out as being important factors, particularly the high percentage

of deaths due to prematurity, the larger families the longer period of childbearing for women, the rural character of the county making nursing supervision more difficult and decreasing the availability of prenatal care the increase in the mortality rate in families in the lower brackets of economic status. These all indicate where efforts to reduce infant mortality should be directed.

I would make a special plea to physicians to

refer prenatal cases to the public health nurse as early as possible. If we are to reduce stillbirths and neonatal mortality rates mothers should have help and advice early in pregnancy, not just before the time of delivery. Hand in hand with these if we are to achieve results, must go further efforts in public health education to reach those who are going to need this help and advice before the necessity is upon them.

### THE GROSS PRIZE ESSAYS

The Philadelphia Academy of Surgery announces that essays for the Samuel D. Gross Prize of fifteen hundred dollars will be received in competition for the prize until January 1, 1940.

The conditions annexed by the testator are that the prize shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages octavo in length, illustrative of some subject in Surgical Pathology or Surgical Practice founded upon original investigations the candidates for the prize to be American citizens.

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays which must be written by a single author in the English language, should be sent to the Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery care of the College of Physicians 19 S. 22d St. Philadelphia on or before January 1, 1940.

Each essay must be typewritten distinguished by a motto and accompanied by a sealed envelope bearing the same motto containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

### CO-OPERATIVE MEDICAL TRYOUT IN WISCONSIN

An experiment worth watching has been started at Superior Wisconsin by the County Medical Society there, in co-operation with the State Medical Society. The doctors of the County Society are to give complete medical and surgical care to the members of the Co-

operative Health Association of Superior on a prepayment basis for a period of trial and study. The patient has free choice of any doctor in the county society and the J.A.M.A. reports that '\$3 a month for an entire family has been tentatively considered' for the dues.

# A NEGLECTED ENTITY IN ABDOMINAL PAIN AND A COMMON DISEASE—CICATRIZING ENTERITIS

ELLIOTT C. CUTLER, M.D., Boston

(From Peter Bent Brigham Hospital, Boston      Moseley Professor of Surgery, Harvard Medical School)

THE disorder of cicatrizing enteritis presents a clinical entity characterized by bouts of diarrhea, fever, and attacks of colicky abdominal pain, lasting over many years, ending with weight loss, and frequently forcing patients on the advice of their family doctors to seek surgical relief. The observation of several cases over a period of years seems to indicate that surgery is not a cure, that recurrence following radical surgery is frequent, and that patients may recover spontaneously. It is our hope that the evidence is now sufficient to justify the retention of patients with this disease in the hands of the family physician and thus avoid the suffering and dangers which accompany surgical therapy.

The disease has been variously called terminal ileitis, interstitial enteritis, Boeck's sarcoid, and chronic granuloma of the intestine. Its etiology is unknown, investigators have been unable to transfer the disease to animals, and bacteria or virus as a cause are not indicated by laboratory studies. It is, however, a definite clinical entity and should be identified as easily in our day as were the disorders described by Addison, Hodgkin, Basedow, Paget, and von Recklinghausen in their day.

The disease is a chronic, nonspecific, inflammatory lesion of the intestine chronic, because it exists in individuals over many years—present twenty-three years in one case in this proved group (Z.S. below), nonspecific, because inoculation of histologically involved lymph nodes has given no growth on culture media and no "takes" in any laboratory animal, inflammatory, because local cellular reaction and fever accompany acute exacerbation of the disease.

It more commonly and usually involves the terminal ileum but has occurred independently in the jejunum and the large intestine. It usually commences in youth. In this series of 11 cases certified by histologic study, the average age was 34 years when recognized, 34.2 years in 6 males, and 33.2 years in 5 females. The average age of onset was 27 years. The occurrence in youth may suggest bacterial etiology, i.e., a disease arising before immunity is fully established. It has been more frequently reported in Jewish people—in this series 7 of 11 cases, the other racial divisions are as follows: 1 negro, 1 Armenian, 1 Italian, 1 Irish. This preponderance of the Jewish race may only reflect the fact that the chief studies thus far have come from large urban centers where the concentration of Jewish people is relatively high.

A study of the literature is of interest since it reveals that sporadic cases have been reported for twenty-five to thirty years and curious granulomata of the large bowel, even longer. In 1913, under the title, "Chronic Interstitial Enteritis," Dalziel of Glasgow presented typical cases and he referred to the similarity of his pathologic findings to those of Johne's disease in cattle. Moschcowitz and Wilensky of New York in 1923 under the title, "Nonspecific Granulomata of the Intestine," reported 4 cases where the lesion seemed restricted to the terminal ileum and cecum. But it was not until the paper by Crohn, Ginzburg, and Oppenheimer entitled "Regional Ileitis" in 1932 that the attention of the profession was seriously awakened. These authors gave the first clear description of the disease, defining a symptom-complex and pathologic entity out of that hodgepodge

*Presented in part before the Interstate Postgraduate Medical Assembly of North America, St. Louis, October 19, 1937, and before the Rochester Academy of Medicine, Rochester, New York, November 4, 1937*

and melting pot of benign granulomata of the intestine in which lie tuberculosis, Hodgkin's disease, lymphogranuloma, etc. They emphasized the acute, subacute, and chronic process with tubercle formation, they pointed out that patients, if they fell into the hands of surgeons early in the disease, usually lost their appendices, and they defined the clinical course of bouts of diarrhea and abdominal pain usually beginning in young adults and accompanied by chills and fever. These authors believed that the disorder was confined to the terminal ileum and advised surgery. A voluminous literature, largely case reports with clinical studies, has appeared, at least eighty four papers in the last ten years. The experimental studies of Reichert, who injected sclerosing solutions into the mesenteric lymphatics and produced tissue changes similar in many ways to those seen in this disease, are illuminating but give us no further clue. These reports have added nothing to our knowledge of the etiologic factors. Some authors report complete cure by surgical means but follow up studies in our patients and in certified cases in the hands of colleagues lead us to feel that the recurrence is a frequent happening.

### Pathologic Considerations

The initial histologic lesion seems to be a generalized inflammatory reaction with increased vascularity and swelling of the involved tissues with edema and cellular infiltration, the cellular infiltration is largely lymphocytic with plasma cells and eosinophils in moderate numbers. Eventually the acute reaction is followed by fibrosis and invasion by giant cells, and a more chronic process occurs as a part of the attempted healing process. The reactive areas now appear as small tubercles similar histologically to what appear in tuberculosis. An essential difference from tuberculosis is that, though both lesions show tubercles composed of epithelioid cells and giant cells with lymphocytic reaction, the lesion in cicatrizing enteritis never contains the tubercle bacillus and never goes on to caseation. As the fibrosis increases, constriction of the

bowel results and the wall of the intestine becomes a stiff tube with variable areas of greater constriction which may almost totally obstruct the lumen of the bowel. In the large intestine the fibrous tissue reaction tends to be greater than in the small intestine, and actual tumor masses which are palpable and even visible through the abdominal wall may result. In the small bowel, as the constriction progresses and as the blood supply and lymphatic drainage are interfered with, ulceration of the mucosa results. This ulceration has a highly characteristic appearance being located at the mesenteric side of the gut, often as a long irregular ulceration about which the gut is constricted. The majority of the reports agree that the terminal ileum is by far the most frequently involved area.

### Clinical Considerations

The pathologic process gives us ample and complete understanding of the clinical course of such cases. Clinically, the history is that of young people with at first intermittent bouts of diarrhea and vague abdominal distress, such bouts often accompanied by fever. If the abdominal distress is considerable attention is called usually to the right lower quadrant, since the chief focus in most cases is the terminal ileum. It is because of this that so many of the cases have had their appendices removed during an early attack—in our series, 5 of the 11 cases. Once the disease is established, the bouts of diarrhea, pain, or indigestion repeat themselves and eventually the diarrhea results in considerable loss of weight. In 6 of our 11 cases the weight loss averaged 23 pounds before the diagnosis was made. Gradually stenosis of the bowel occurs and the patient, perhaps long treated as a case of tuberculosis of the intestine or ulcerative colitis falls into the hands of the surgeon and usually exploration reveals the disease.

More rarely there is a seemingly acute onset as perforation occurs. In a review of our cases many of the patients upon early admissions were diagnosed as tuber

culosis by the roentgenologist as well as the physician. Others were thought to be suffering from ulcerative colitis. One patient had been in the hospital five times previously for study, 3 patients, four times, 1, three times, 1, twice, and 1, once, and 3 of the 11 patients had been in sanatoriums for tuberculosis. We must remember that clinically they presented themselves as wasted young people with diarrhea, and that the x-ray studies revealed an irritated terminal ileum and cecum so frequently the seat of intestinal tuberculosis or chronic ulcerative colitis.

If we, as surgeons, are to be critical of others, we must be equally critical of ourselves for not recognizing the disease earlier. Of course all surgeons have handled this entity and we feel chagrined at our failure to have noted the disorder until colleagues had published their studies. But if we as surgeons have been guilty, surely our pathologic and roentgenologic confrères are in a similar predicament. An industrious search among our cases of so-called chronic appendicitis by Dr Orville Bailey yielded only one case (Z S, reported below) in which the excised specimen suggested the disease on histologic grounds, and a careful follow-up on patients in whom there was evidence of irritability of the terminal ileum and cecum and in whom tuberculosis has been suspected but not proved yielded no case of this disease and only two changes in diagnosis, one from tuberculosis to cancer, and the other from tuberculosis to amebic dysentery. These studies seem to suggest an increasing incidence of the disease.

### Case Reports (See chart, opposite page )

*Case 1*—M M G \* Jan 3, 1925. Original admission when 25 years old with a complaint of diarrhea of eight months' duration. No blood in stools, slight abdominal cramps. In spite of diet there had been a loss of 30 lbs in weight. For five months before admission he was kept to his bed. In the hospital his diet

was changed and he was discharged improved. Impression chronic colitis. April 7, 1926, re-admitted. This time there was fever in addition to diarrhea. He had gained some weight. There was occasional nausea and vomiting and a relative mononucleosis. Temperature gradually fell. Discharged. Impression infectious mononucleosis. June 29, 1926, re-admitted for tonsillectomy. Jan 6, 1929, re-admitted for fever of unknown origin, diarrhea had continued. X-ray studies (barium enema) suggested tuberculosis of the cecum. Sept 11, 1931, re-admitted. Again there was diarrhea, lower abdominal pain, and fever. The patient was explored and the cecum, ascending colon, and 120 cm of terminal ileum removed (Sept 15, 1931). Diagnosis terminal ileitis. April 5, 1933, in for check-up on condition. Bowel movements had decreased for several months following operation but gradually increased thereafter until he had as many as 30 movements a day. No gross blood in stools. Barium enema studies showed colon to fill normally, the hepatic flexure to regurgitate promptly into ileum, the distal ileum to appear irregular and irritable. Recurrence of disease suspected. Sept 2, 1933, patient again submitted to surgery after study. This time a good deal of the terminal ileum was again involved and it looked as if it would be impossible to resect. Picking up a piece of ileum some 15 cm away from the present stoma, a new ileo-transverse colostomy was done close to the splenic flexure, leaving a loop of ileum and a segment of transverse colon in the patient through which, however, the intestinal stream did not necessarily have to pass. The patient made a good postoperative recovery and then moved to New York where in March, 1934, he was operated upon again. The proximal ileum between the two ileotransverse colostomies was excised after the proximal ileo-transverse colostomy was taken down and the opening into the transverse colon closed off. July, 1935, and May, 1936, he was again back in this hospital. He had gained weight, but diarrhea and abdominal pain gave evidence that the disease was still present. Nov, 1936, check-up showed he had gained 30 lbs, but still had abdominal discomfort and diarrhea. Barium enema showed recurrence in the ileum. A check-up in April, 1937, showed the same results as in November, with 6 stools a day. Oct 13, 1937, gave his weight as 137 lbs stripped. He had 3 stools a day. Barium enema showed 40 cm of terminal ileum rigid and constricted, average lumen only 8 mm. Impression disease still present and active.

\* Previously reported by Dr John Homans and Dr George M Haas

## SUMMARY OF CASES

|               | DATE AND AGE AT RECOGNITION | PRESENTING SYMPTOMS AND DURATION              | HOSPITAL ADMISSIONS BEFORE RECOGNITION | PRE-EXISTING APPENDECTOMY | OPERATION*  | FOLLOW UP  |
|---------------|-----------------------------|---|--|---------------------------|---|--|
| M.M.G. male   | 1931<br>31 yrs.             | Diarrhea abd pain 7 yrs. wt. loss 30 lbs.     | 4                                      | 0                         | 1 9/15/31 Resec. 4 foot ileum append. ascend. colon ileotrans. colostomy<br>2 10/2/33 Sidetracking ileotrans. colostomy   | 1 1 yr later more ileum excised (N.Y.) reported "cured"<br>2 10/13/37 gained 30 lbs "frequent stools" x-ray narrowing terminal ileum. Impression disease still present |
| O.B. female   | 1933<br>26 yrs.             | Diarrhea abd pain 2 yrs.                      | 0                                      | 0                         | 3/18/33 Resec. 2 foot ileum append. cecum ascend. colon ileotrans. colostomy  | 2/7/34 B-enema negative.<br>9/2/37 Occasional diarrhea. Impression disease still present   |
| A.S. male     | 1934<br>60 yrs.             | Abd pain 10 yrs wt. loss 20 lbs.              | 0                                      | 0                         | 5/12/31 Resec. 2 1/2 foot ileum cecum, ascend. colon ileotrans. colostomy evisceration 6 days. Repair Death<br>12/5/35 Resec. 2 foot ileum cecum ileotrans. colostomy | Dead   |
| D.A.R. female | 1936<br>20 yrs.             | Diarrhea, abd. pain 2 yrs.                    | 3                                      | 1034 (Tb.)                |   | 4/26/37 B-enema—involvement ascend. colon gained 30 lbs. diarrhea, 7 mass. Impression disease still present  |
| A.C.W. female | 1935<br>47 yrs.             | Diarrhea 5 mos. wt. loss 24 lbs.              | 0                                      | 0                         | 1 2/18/36 Resec. trans. colon, Milklic type<br>2 2/2/37 Resec. 2 foot terminal ileum, append. cecum ascend. colon trans. colon ileostomy                              | 8/1/37 gained 40 lbs B-enema = normal rectum and desc. colon Impression no evidence disease  |
| E.D.W. male   | 1936<br>25 yrs.             | Diarrhea 5 yrs.                               | 2                                      | 0                         | 10/16/30 Resec. 2 foot ileum cecum append. ascend. colon ileotrans. colostomy   | 4/16/37 gained 30 lbs occasional diarrhea. Impression disease still present  |
| D.S. male     | 1936<br>27 yrs.             | Diarrhea abd pain 5 yrs. wt. loss 26 lbs.     | 4                                      | 1027 (acute)              | 11/23/36 Resec. 1 1/2 foot ileum cecum ascend. colon trans. colon 1/2 desc. colon ileosig. moldostomy   | 6/9/37 motility series suggests partial obstruction mild diarrhea. Impression disease present ? if active  |
| Z.S. male     | 1936<br>32 yrs.             | Abd pain diarrhea 23 yrs.                     | 4                                      | 1921 (incidental)         | 1028 Exploration at out side hospital. Pericecal adhesions separated  | 4/17/37 x-ray evidence disease terminal ileum Impression disease still present   |
| N.W. male     | 1937<br>29 yrs.             | Diarrhea abd pain 5 yrs. wt. loss 16 lbs.     | 5                                      | 1028 (acute)              | 1/23/37 Exploration in operable Small intestines matted together  | 0/16/37 involvement small intestine diarrhea decreased wt. normal. Impression improved but disease still present   |
| T.F. female   | 1937<br>20 yrs.             | Diarrhea abd pain 3 1/2 yrs. wt. loss 21 lbs. | 0                                      | 0                         | 1/16/37 Resec. 2 foot ileum append. cecum ascend. colon 1/2 trans. colon ileotrans. colostomy   | 0/2/37 x-ray — normal ileum gained 27 lbs. Impression no evidence disease  |
| L.N. female   | 1937<br>53 yrs.             | Diarrhea 1 yr RLQ pain 7 mos.                 | 0                                      | 0                         | 4/24/37 Exploration in cecal appendectomy ileum showed cecitis long enteritis   | 10/11/37 B-enema—ascend. colon less involved than previously slight diarrhea 7 mass RLQ Impression ? if disease still present  |

\* These cases were operated upon by Drs. John Homans, Robert Gross, Carl Walter and Elliott Cutler of the Peter Bent Brigham Hospital Surgical Staff

Case II—G.B. † March 1933 patient 20 years old, with history of recurrent left lower quadrant pain and diarrhea of two years duration. Spasm, tenderness in right lower quadrant. X-ray studies showed terminal ileum narrow and constricted over several inches ileocecal valve tender Impression probably tuberculosis. Operation revealed lower 3 cm of ileum much thickened edematous and constricted Coils adherent enlarged retro-peri-

tonal glands Excision lower 5 cm ileum appendix cecum and ascending colon lateral anastomoses to transverse colon Feb 28 1936 check up showed no discomfort gaining weight occasional attack of diarrhea. Feb 7 1937 barium enema showed large bowel normal to ileocolostomy barium could be forced into ileum which seemed normal Feb 14 1937 week preceding had had attack of severe right lower thoracic pain radiating to back. No previous gallbladder history but this was considered. Feb 25 1937 cholecystograms showed

† Previously reported by Dr. John Homans and Dr. George M. Hanz.



normal gallbladder Feb 28, 1937, no return of pain Sept 2, 1937, occasionally had formed stools with 3 to 4 bowel movements a day Appeared well, abdomen negative Impression disease still present

*Case III*—A S May, 1934, patient 60 years old For ten years had had attacks of pain in the right lower quadrant with some loss of appetite and weight Physical examination showed tenderness in the right lower quadrant, barium enema showed narrowing, irritability, and distortion of the ascending colon, the terminal ileum appearing normal Patient explored Ileocolostomy, sidetracking operation carried out He was not a good risk The wound eviscerated and the patient died six days postoperatively Histologic report cicatrizing enteritis

*Case IV*—D.A.R. Oct, 1935, patient a 20-year-old student nurse Admitted complaining of intermittent pain of one year's duration Two years previously had intractable diarrhea, blood, and mucous, which gradually became worse, accompanied by dull right lower quadrant pain, distention, and gas Diagnosis chronic appendicitis Operation performed elsewhere one year after onset Diagnosis of intestinal tuberculosis made, not proved histologically Diarrhea first improved, then an ischio-rectal abscess developed The sinus had been present about eight months X-ray studies, barium enema, showed irritable lesion in terminal ileum Under spinal anesthesia ischio-rectal fistulous tract excised proved tuberculous Fever and bowel complaints continued Because of proved tuberculosis of the fistula and the fact that tubercle bacilli were said to have been found in the stool on occasions, and because the appendix was thought to be tuberculous, the diagnosis of cecal tuberculosis was made Patient explored Dec 5, 1935 Terminal ileum was found to be repeatedly kinked and adherent upon itself, and there were greatly enlarged lymph nodes in its mesentery Tubercles were seen on the surface of the large bowel No free fluid Resection 5 cm terminal ileum, cecum, and part of ascending colon, end to side anastomosis Good recovery, steady gain of weight, 30 lbs by Nov 5, 1936, at which time anal wound was still open There was some diffuse lower abdominal tenderness, occasional bouts of diarrhea Histologic report cicatrizing enteritis, not tuberculosis April 26, 1937, office examination a week previously showed a gain in weight to 166½ lbs, but there was a tender mass in the right lower quadrant and patient still had bouts of diarrhea Rectal examination inconclusive, rectal wound well healed, pilonidal sinus quiet

Barium enema on April 26 showed definite involvement of small fragment of ascending colon Terminal ileum was unable to be filled with barium Recurrence May, 1937, diarrhea continued Oct, 1937, diarrhea still continued Patient had gained more weight. She was working as a nurse Impression recurrence of disease

*Case V*—A C W Dec, 1935, colored female of 47 years entered the medical service complaining of shortness of breath and loss of voice of one week's duration For three months there had been unproductive cough, occasional fever, and poor appetite There had been diarrhea for five months, and she had lost 29 lbs in five months As a part of the general check-up on her condition a barium enema was done which to everyone's surprise showed an obstructive lesion at the midtransverse colon The diagnosis of obstructing carcinoma was made Transferred to surgery Exploratory laparotomy revealed a peculiar inflammatory obstructing area in the midtransverse colon region, which certainly was not a typical carcinoma. Because of uncertainty of type of lesion, it seemed unwise to resect and perform a primary suture Most of the transverse colon was dragged out of wound, and the loop containing the lesion removed with its web of mesentery The two loops of bowel were then approximated and a Mickulicz procedure carried out Convalescence uneventful Histologic studies proved entity to be cicatrizing enteritis Patient made a good recovery Was well until Oct, 1936, when there was pain about umbilicus and a tender lump at the bottom of the scar Nov 30, 1936, re-admitted to surgical service but preferred to go home for Christmas X ray studies showed constant irritability at transverse colon at point of previous operation suggesting that the disease was still present at this point Jan 4, 1937, re-entered Old wound re-opened At bottom of wound the bowel was firmly adherent to the scar, and the mass which had been felt seemed to be an extension of the disease into the subcutaneous tissues The scar itself, therefore, was left on the bowel mass Exploration revealed that, although this had not been seen a year before, the disease now involved the cecum, the appendix, and about 3 cm of the ileum There were involved lymph nodes in the mesentery, the gut was thickened, puckered and edematous, and in part stenosed Radical removal decided upon Ileum divided 5 cm from ileocecal valve, and terminal ileum, appendix, cecum, ascending and transverse colons excised, cutting across the mid-descending colon It was then found that the entire sig

mold was involved and the patient was left with a permanent ileostomy closing off the distal end of the divided sigmoid. Patient seen March 5 1937. Was gaining weight rapidly. By April 20 1937 she had gained 43 lbs. the ileostomy worked well and there were no complaints. Three enemas were given after leaving hospital but only slimy material had come away. Felt better than ever and ate well. Barium enema, which included only sigmoid since that was the only fragment of large bowel remaining, showed large bowel pliable movable, haustrations re-appearing in contrast to a fixed stiff tube seen previously. The small perforation seen before the last operation when the barium tended to escape into the left iliac fossa had disappeared. Great improvement. On Sept. 30 1937 barium enema showed normal rectum and descending colon. Patient had gained 49 lbs. Ileostomy moved twice a day. She felt fine. Impression: excellent result. No evidence of recurrence.

*Case VI*—B.D.W. Feb. 2 1932 21 years old came to hospital complaining of intermittent bouts of diarrhea for six months. Barium x-ray studies seemed practically normal. Placed on a diet. July 14 1936 re-admitted complaining of abdominal pain of greater intensity than usual for two days before admission. White count had risen to 14,200. Barium studies disclosed an irritable terminal ileum. Diagnosis: regional ileitis. Dietary regime ordered to be continued. On Oct. 13 1936 re-entered hospital because of two attacks of severe abdominal pain with fever and diarrhea. A fusiform nontender mass was felt in right iliac fossa. Operation Oct. 16 1936 resection of terminal ileum and cecum for typical cicatrizing enteritis. By Dec. 1936 he had gained from 120 lbs. to 144 lbs. Condition excellent. Belladonna taken in small amounts. One stool daily sometimes every other day. Check up on April 16 1937 patient had been to Florida. Had gained 30 lbs. since operation but still had attacks of diarrhea and abdominal pain, without chills or fever. No x-ray check up made. Impression: disease still present.

*Case VII*—D.S. Oct. 6 1927 entered the Peter Bent Brigham Hospital at 18 years of age. Apparently typical attack of acute appendicitis. operative findings compatible with acute appendicitis. histology showed acute appendicitis. Not seen again until Aug. 2 1933 when he entered the medical service with complaint of diarrhea of one and one-half years duration. cramplike pains over whole abdomen, occasional nausea and vomiting. loss of 26 lbs. Stools negative for typhoid paratyphoid and dysen-

tery. X-ray enema showed some delay at splenic flexure and remaining colon and distal ileum was filled with difficulty. Impossible to outline cecum. Impression: tuberculosis of the terminal ileum and colon. Studies repeated and it was thought that the too oblique appearance of terminal ileum with irritability and with general narrowing of colon suggested ileitis and colitis, probably nontuberculous. Discharged on bland diet. Nov. 4 1933 re-entered medical service with diarrhea worse than ever in spite of carrying out dietary orders. Given emetine therapy with negative results. In spite of x-ray opinions, medical service felt the disease might be acid fast enteritis and the patient was transferred to the Lakeville Tuberculosis Sanatorium where he remained from Dec. 10 1933 to April 15 1934. All this time he was bothered with bouts of diarrhea and abdominal complaints. Re-entered the surgical service on Nov. 19 1936. Symptoms had returned, and continued. Just before admission, sharp right lower quadrant pain on several occasions. Surgery advised. At operation definite evidence of chronic cicatrizing enteritis over the lower 40 cm. of the small intestine. Cecum and ascending colon were fixed, thickened, and firm, and there was some involvement of the whole transverse colon. The lower 60 cm. of the small intestine with cecum, ascending colon, transverse colon and half of descending colon were removed and a side to side ileocolostomy carried out. By Feb. 12 1936 patient weighed 147 lbs. and felt fine, two or three stools a day, no pain, abdomen soft. He was working. On Feb. 17 1936 a barium enema showed no evidence of disease. Check up on March 1 1937, showed patient was working that he felt fine, had liquid stools but no abdominal discomforts. Haliverol and yeast prescribed. From May 28 to June 12 1937, patient was in hospital for diarrhea 7 per day. Barium enema suggested partial obstruction at various parts of small intestine. By June 22 1937 he was having 3 stools a day. Impression: recurrent disease? inactive.

*Case VIII*—Z.S. Aug. 1921 patient 18 years old came to hospital complaining of attacks of abdominal pain. Had had malaria nine years previously and an attack of jaundice two years previously. Bouts of abdominal pain had been present for eight years occurring every four to five months i.e. began at 10 years of age. Physical examination negative except for umbilical hernia. Explored Aug. 26 1921 routine appendectomy. Appendix normal. findings quite normal except for umbilical hernia. Patient was not improved by surgery.

and in Dec., 1926, was back in hospital in the medical service with same complaint, though in addition he had noticed bouts with more pain and sometimes chills, fever, and diarrhea. It was suggested that he had mucous colitis. Cholecystograms and G.I. x-ray studies were negative. In medical record on Feb. 6, 1928, a letter from D.H.J. said this patient went to Dr. H.H.G. who explored him finding a peculiar condition with inflammation of the lower abdomen involving cecum. Some adhesions were cleared and after a strenuous convalescence, patient recovered. Letter from patient's New York doctor April 13, 1937, said x-rays in New York showed an apparent narrowing of the terminal ileum a few inches distal from the ileocecal valve. Oct. 13, 1937, correspondence revealed that in another x-ray series in June, 1937, the irritability seen previously had disappeared, but patient still had bouts of diarrhea. Impression: disease still present.

*Case IX*—N.W. In 1928, when 20 years old, had appendectomy at the Harley Hospital. Apparently no complaints preceding the acute story. In Sept., 1935, at the Beth Israel Hospital, because of left-sided pain in abdomen, was proctoscoped and studied, and discharged without diagnosis. He came to the Peter Bent Brigham Hospital in Oct., 1935, complaining of lower abdominal pain. Barium studies revealed irritable cecum. He was admitted to the surgical service at this hospital in March, 1936, complaining of hemorrhoids and rectal pain, also a left inguinal hernia. At this time careful questioning elicited the story that for at least four years he had been troubled with bouts of diarrhea and dull pain in the left flank, and ? blood and pus in stool. Anal sphincter was dilated for cure of fissure. In June, 1936, he was admitted to medical service with constant diarrhea. Carefully studied, proctoscoped, and x-rayed, and sent out with the questionable diagnosis of ulcerative colitis or psychoneurosis. Barium studies on the surgical service in August, 1936, suggested disease about the cecum. Operation was performed: adhesions were found about the seat of the old appendix scar but the intestines themselves appeared absolutely normal. Resection not carried out. By Jan., 1937, he was back on the surgical service for repair of ventral hernia in the scar through which the appendix had been removed in 1928. In spite of the fact that at the preceding operation in Aug. his intestines had appeared normal, the lower  $\frac{3}{4}$  of the small intestines were now found densely matted together, fixed, and beyond all thought of surgical removal. Wound closed. Feb. 26,

1937, he weighed 151 lbs. had many abdominal cramps, was using enemas for bowel movements. Patient brought back on medical service in March for an attempt to study his reaction to a foreign serum, Coley's serum being administered at that time. His weight was 153 lbs. He was using oil to move bowels, 1 to 2 stools a day, no cramps. March 8, first injection Coley's vaccine 0.06 cc in 1 cc salt solution first, then 1 cc in buttock, followed by dizzy spell. By March 10, 1937, diffuse pains, chills, and fever to 101 F. March 12, 1937, had diarrhea for one day. March 26 entered hospital and that day and as follows (March 30, April 1, 4, 6, 9, 12, and 14) Coley's serum intramuscularly. Injections 1, 6, 9, 12, and 14 accompanied by chills and high rise in temperature. Meanwhile he had no diarrhea. Looked well. Abdomen seemed distended but not tender and except for complaints which might have been due to the injected material, seemed well. Agglutinations for *Brucella abortus*, negative. By April 27, 1937, there was obvious involvement of the transverse colon and terminal ileum though terminal ileum peculiarly enough seemed wider, more flexible, and less involved than at the previous examinations. From Sept. 10 to 18, 1937, patient was in hospital for abscess in axilla and diarrhea. Barium enema and motility series showed some healing in terminal ileum, transverse colon normal. Impression: improved but disease still present.

*Case X*—T.F. Jan., 1937, a 20-year-old single female cosmetic worker entered the medical service in this hospital with the complaint that for three and one-half years she had had recurrent attacks of right lower quadrant pain, recently more severe, accompanied by diarrhea and loss of weight to 83 lbs. On admission a mass was felt in right lower quadrant. Barium studies both by enema and by mouth showed inflammatory lesion involving terminal ileum, cecum, and ascending colon. Operation: resection 5 cm terminal ileum, cecum, appendix, ascending colon, and one-half transverse colon, end to side anastomosis. On March 15, 1937, motility x-ray series of 2- to 3-hour films showed an irregular loop of terminal ileum in the right lower quadrant about 10 cm in length which did not show normal mucosal markings. Patient had gained 3 lbs in previous week. March 26, 1937, she weighed 99 lbs., was having stools about three times a day, improved. September 2, 1937, a barium enema was normal. She had gained 27 lbs. now weighing 110 lbs. Impression: no evidence disease, ? cured.

*Case XI*—L.N. April 21, 1937, a 54-year-old female entered the hospital because of a

ragging pain in the right flank and right lower quadrant of seven or eight months' duration. The pain had not been severe enough to interfere with her routine activities and was characterized as being a rather dull ache with a sharp stabbing exacerbation on numerous occasions. The patient had tended to have diarrhea during the past few years but it had not been enough to bother her. No chills, no fever, no weight loss. The patient had had repeated barium enemas and abdominal plates in our O D D, the results of which were equivocal. She entered the hospital for intestinal motility series. The physical examination revealed a well-developed, somewhat obese, white female in no distress. Examination was unremarkable except for the abdomen which revealed generalized right-sided tenderness more in the right lower quadrant ill-defined tender mass freely movable in the right lower quadrant. Impression: chronic cicatrizing enteritis? tuberculosis of cecum? carcinoma of cecum. X-ray report April 22: hourly films after 30 grams of barium by mouth showed fairly rapid progression of the barium through the small bowel filling the cecum and ascending colon at four hours. As far as seen the loops of ileum were quite normal. Cecum and ascending colon again appeared irritable. Findings negative except for irritability in the ileocecal region. On April 24 1937 a laparotomy was carried out. Cecum and terminal ileum extensively involved with cicatrizing enteritis, routine appendectomy carried out. Appendix failed to show histologic proof of gross diagnosis. On Oct. 11 1937 a barium enema showed cecum and ascending colon ragged and irregular but more tolerant apparently improved. Impression: disease still present.

## Discussion

A study of these cases seems to make the symptom-complex one we all should recognize. Both the clinical and pathologic findings are highly suggestive of a definite entity and we can only wonder why this awaited recent times for recognition. The disease is characterized by a nonspecific inflammatory reaction in the intestines which usually begins in youth and goes on for years and years. It results in bouts of diarrhea and abdominal discomfort, bouts which in advanced cases are frequently accompanied with chills and fever. The chronicity of the disorder is visualized in the patient Z S (see

above) where the disease has caused symptoms for twenty seven years. Finally, as the pathologic process goes on to cicatrization, a variable stenosis of the bowel which seems to justify mechanical intervention results.

In our complete hospital series of 11 certified cases, all but 2 cases show active disease following surgery. The period of postoperative observation averages over three years. We have as controls for this series of cases treated by surgery not only the case Z S cited above in whom only incidental appendectomy was carried out and L N cited above in whom appendectomy alone seemed wise, but also four other patients in whom the diagnosis was confirmed by both clinical appraisal and x-ray studies. Note that in the case of Z S the disorder has been present for twenty seven years, yet the patient is active and well except for occasional bouts of diarrhea and colic.

Of our unoperated cases, E P is the most enlightening, for the therapeutic test was formidable, surgery being withheld because the patient's condition was so critical. The story is as follows: E P, married woman of 52, admitted for study March 20, 1933, complaining of epigastric distress and colic for four months, tenderness right lower quadrant, cholecystography, pyelography, and gastrointestinal barium studies, negative. Dec. 24, 1936, readmitted. In interim had suffered from bouts of crampy, colicky pain, most severe attack day of admission, T P and R elevated, WBC 12,000, 90 per cent polys, abdomen generally tender and spastic. Condition gradually quieted down and x-ray showed irritable ileum with multiple constrictions. Surgery withheld. Condition slowly improved, abdominal signs disappeared. Repeated x-ray studies have visualized the progress. October 7, 1937, third motility series revealed a definitely more normal appearance of loops of small intestine, irregular appearance gone, some areas of constriction remaining. General condition excellent, holding weight, active and except on rare occasions, no abdominal signs or symptoms. Impression: marked im-

provement, though disease still present

A critical survey of our experience leaves us dubious about the value of surgery. Sidetracking procedures both in our hands and others have proved of little value. In this series 9 of the 11 cases were submitted to radical surgery with removal of variable lengths of both small and large bowels. Appendectomy alone was used in two cases, one where the disorder was unrecognized (Z S) and the other where radical surgery seemed impossible (L N). Radical removal usually ended with recurrence except in the most severe case of A C W when ileostomy, even with evidence of disease in the segment of sigmoid, brought prompt relief. It is unfortunate that we have had no further experience with permanent ileostomy, because the course of this disease and chronic ulcerative colitis are so alike and because permanent ileostomy in some hands has proved the most efficacious treatment for this latter condition. The apparent relief in L N when the appendix alone was removed may be only a temporary result. In the hands of others the simple procedure has not brought relief.

Throughout the citation of the cases we have spoken of an x-ray "motility series." This method has long been employed for the study of disorders of the small bowel, and consists of giving to the patient 30 grams of barium and then taking hourly films for eight to ten hours. This seems to be the best method for evaluating disorders of the small intestine and is an interesting example of the beneficial resurrection of a neglected method of study. For the adequate study of this particular entity it seems to be of the greatest value. Barium enemata may not pass the ileocecal valve and thus will fail to reveal disease in the terminal ileum. Considerable evidence, however, as we have seen, may be derived from this simple method, the motility series.

In the literature are cited cases where rupture has occurred and fistulous tracts have followed surgery. This has not occurred in our experience in spite of frequent re-involvement at the site of surgical intervention. In fact our only ex-

perience with fistulae was in a case not reported here, carried in our files for two years as cicatrizing enteritis, finally proved to be the seat of malignant disease.

It has been suggested that we are dealing with a new disease or an endemic disorder recently transported among us. This does not hold when we consider the evidence of its presence long ago as seen in the literature. Its similarity to John's disease of cattle led us not only to fruitless attempts to transplant it directly to calves but to carry out skin sensitization tests with Johnin, a byproduct of the growth of the pseudotubercle bacillus of cicatrizing enteritis of cattle put out by the U S Dept of Agriculture for animal testing. We gave intradermal injections of this preparation to five patients with proved cicatrizing enteritis and four normal individuals, using tuberculin, salt solution, horse serum, cow serum, and tetanus antitoxin for control of the zone of reaction.

Severe abnormal reactions occurred in only two cases, one patient with a proved tuberculous fistula showed a positive reaction to tuberculin, and another patient recently given a prophylactic dose of tetanus antitoxin showed a positive reaction to tetanus antitoxin. The patient sensitive to tuberculin was also sensitive to Johnin, and three other patients with cicatrizing enteritis and three of our normal controls were sensitive to both Johnin and tuberculin. Obviously there is no relationship between skin sensitivity to Johnin and to cicatrizing enteritis of man, though there is a positive correlation between skin sensitivity to tuberculin and skin sensitivity to Johnin.

Therapy other than surgery has consisted only of a simple bland diet. Drugs have not been of great value. Liquid petrolatum has helped where there have been signs of obstruction, and in the acute phase frequent small feedings have alleviated the difficulties and fear of a large food intake.

Coley's serum was given in one case without great change.

Reactions to *Brucella abortus* and the Frei test have been negative,

**Summary**—1 Cicatrizing enteritis is a striking clinical entity characterized by bouts of diarrhea and colicky pain, and often accompanied by chills and fever

2 Eleven surgically treated and histologically certified cases of cicatrizing enteritis are discussed, with citation of nonoperated cases with the same disease.

3 Nine patients show recurrence, after radical surgery. Some patients have had multiple operations. One case with severe recurrence has been cited by his previous physician as cured.

4. Two patients with simple appendectomy and proved disease are still the seat of disease, one after twenty seven years, but both are active and in good general condition. One patient with the most extensive evidence of involvement by x ray is steadily improving without surgery.

5 A "motility" x ray series is the most important method for the proper evaluation of this disease in the small intestine.

6 We advise against surgery unless

action is forced by obstruction or perforation

7 If surgery seems necessary, permanent ileostomy may be the best procedure.

8 We feel patients with the seat of this disease should be recognized by family physicians who should keep such patients under their care on a simple diet rather than turn these patients over to their surgical colleagues

## References

- Alessandrini, P. *Bull. e Atti. d. r. Accad. med. di Roma*, 53: 208-211 (June-July) 1927  
 Crohn, Burrill B. Ginzburg, Leon, and Oppenheimer Gordon D. *J. A. M. A.*, 99: 1,323-1,329 (Oct. 18) 1932  
 Crohn, Burrill B. and Rosenak, Bernard D. *J. A. M. A.*, 106: 1 (Jan. 4) 1935  
 Dalsiel, T. K. *Brit. M. J.* 2: 1,063-1,070 (Oct. 25) 1913  
 Homans, John, and Hass, George M. *New England J. Med.* 209: 1,315-1,324 (Dec. 28) 1933.  
 Jackson, Arnold S. *Surg. Gynec. & Obst.* 65: 1-10 (July) 1937  
 Johns and Frothingham. *Bd.* 21: 438-454 (1893)  
 Kantor, John L. *J. A. M. A.* 103: 2,016-2,020 (Dec. 20) 1934.  
 McFadyen, Sir John. *J. Comparative Pathology and Therapeutics* 20: 48-60 (1907)  
 Moschowitz, Eli and Wilemsky, A. O. *Am. J. M. Sc.* 166: 48-66 (July), 1923.  
 Pierard, J. *Bull. Soc. franc. de dermat. et syph. (Reunion dermat. Strasbourg)* 41: 1,275-1,278 (June) 1934  
 Reichert, Frederick Lee, and Mathes, Mary E. *Ann. Surg.* 104: 601-616 (Oct.) 1936.

## THEY ARE DISCOVERING THE SNAGS

It is doubtful if the health insurance scheme enacted in Australia a few months ago will ever go into effect says a letter from that country to the *J. A. M. A.* The medical profession there is strongly against it, not merely on financial grounds, but because it will not provide a satisfactory medical service. Apart from the opposition of the medical profession the government is meeting severe criticism from other quarters. First, from a strong federal labor opposition, second from a section of employers who regard with misgiving the extra cost that they will have to carry as contributors to the scheme on behalf of their employees. third, from a body of rural opinion which voices the grievances of small farmers, who will be required to pay contributions for persons they employ but who will not themselves, as self-employed persons be eligible to become insured, and, finally from the existing friendly societies.

## FIGHTING PNEUMONIA BY MOVIE

A movie is the newest weapon of the New York State Department of Health in its war on pneumonia. It is titled, "Serum to Windham" and is being shown at local movie theaters throughout the state.

"Serum to Windham" is a true story based on an actual happening in the Catskill Mountains where a youth was stricken with a rarer type of pneumonia. Realizing the importance of the prompt diagnosis and treatment, a country doctor set emergency wheels in motion. Laboratory New York City police, railroad workers, state troopers, and others participated in getting the serum to Windham in time to save the youth's life. Blizzards, snow drifts and sub-zero weather faced the men delivering the serum.

Some of the persons who took part in the real life drama are included in the cast of the film which was produced by the Division of Public Health Education, State Department of Health

# SURGICAL TREATMENT OF SPASTIC PARALYSIS

FREMONT A. CHANDLER, M D , Chicago

THE term "spastic paralysis" refers to a greatly varied symptom complex, in which the hypertonicity of the skeletal muscles and distorted muscle control are the outstanding features. Because of the wide variety of classifications, considerable confusion has resulted in the various terminologies. By general usage, the term "spastic paralysis" is applied to that paralysis resulting from birth injury or prenatal pathology. In this paper, however, the spastic picture following trauma or the result of other pathologic processes will be touched upon.

The statements made by W. J. Little in 1843 in his publication, *Nature and Treatment of the Deformities of the Human Frame*, still hold true.

"The effects of the derangement of the brain or cord may be limited to the functions of a single muscle or a larger number of filaments and more muscles may be affected."

"May present itself as a congenital affection or as a result of disease during infancy. It is often difficult and sometimes impossible to discriminate."

"In some instances, however, the weakness of intellect appeared to result less from permanent injury to the brain than from want of sufficient training and education."

"The deteriorated health of the parent had directly impaired the nutrition of the fetus, and both directly and indirectly the healthy development of the nervous system."

"An infant prematurely born inadequately prepared to contend against the operation of external agents altered function, congestion, or disease of the most susceptible of the infant's organs, those of the nervous system should occur."

What can modern science add to these

statements of nearly a century ago?

In general, spastic paralysis, or Little's disease, may be described as a disease, congenital or acquired, resulting from sclerosis of cells of the upper motor neurone, varying in degree and usually causing a hypertonicity of the muscles of the part affected. Orderly inhibitory stimuli of central origin do not reach the primary reflex arcs. In contrast to the more or less constant picture of hypertonic muscle reaction are the bizarre entities which we group under the general term of choreo-athetosis. In these, control of purposeful motion is distorted. Little's disease presents a picture of disturbed function of the corticospinal (pyramidal) tracts whereas the latter group presents disturbed function of the tracts from basal nuclei (extrapyramidal) tracts. An overlapping of these clinical pictures occasionally occurs.

The gross or histopathology of spastic paralysis which has been described by many writers may be summarized as follows. When associated with brain injury the lesion is usually found located on one or both sides of the brain and consists of a sclerosis or softening of the area involved, resulting in a degeneration of the cortical spinal tracts. When due to arrested development, the gross evidence is prominent in the cortex as shown by a more primitive convolution pattern. Frequently this is absent and the pathologic picture is present only on microscopic examination. When associated with a disease such as syphilis, there is an associated meningomyelitis of vascular origin with a resulting scarring and adhesions of the membranes and invasion of the brain and cord substance.

When seen at postmortem, the brain surface presents a picture of neuroblastic death as evidenced by atrophic sclerosis

*Read by invitation at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938*

and degeneration of the brain substance as a secondary gliosis

1 A localized lesion of the brain cortex or a small lesion involving the converging cortical spinal tract may be located at or near the internal capsule. These small localized lesions will give focal symptoms involving one or part of any of the extremities and trunk.

2 Scattered pathology This is chiefly prefrontal in origin in the temporal or parietal lobe and is more frequently associated with gross mental defects.

3 A diffuse (walnut) brain in which the frontal and occipital gyri are hard shrunken, and leathery. The cerebellum is usually normal. It may be associated with cavity formations within the brain substance or marked enlargement of the ventricles, probably a process which starts in the deeper cortical layers and is probably a manifestation of embryologic vascular rests

4 Corpus striatum changes, confined to the caudate nucleus and putamen and the basal ganglia, causing bilateral athetosis and chorea. They are thought to be a prenatal process. A similar lesion in the premotor area is usually responsible for the choreiform athetoid movement found in so many spastics

5 A vascular change is often encountered and is evidenced by scarring following a periarthritis or a cortical venous thrombosis

Any one or all of the above complications may be present in the same individual, each resulting in a loss of the inhibitory function of the upper motor neuron.

The title of this presentation, 'Surgical Treatment of Spastic Paralysis, would better read, 'Surgical Phases of the Treatment of Spastic Paralysis,' for in the consideration of these pathetic patients the many phases of treatment should be kept in mind. Surgery plays but a minor role, serving to overcome some of the otherwise insurmountable obstacles of the more normal development and functioning of the spastic patient. When confronted with a spastic patient, the orthopedic surgeon must control his

urge to resort to surgery. He must evaluate the possibilities of the improvement which always accompany growth, the potentialities of mental development, the general state of health of the patient and the possibilities of improvement under a strict regime of physical therapy. Other than in the rare instance where heroic measures are indicated to remove cerebral blood clots, no surgery should be resorted to until the patient reveals some manifestation of co-ordination of muscle action.

During this stage, which may last from a few weeks to several years, treatment should consist of general nursing and the establishment of a proper medical regime as well as properly directed physical therapy. Probably nothing is more important in this phase than the adjustment of the parents to the burden that confronts them. Firm but guarded assurance that muscle control will definitely improve with growth may be given. All reasonable attempts of improvement of nutrition and the correction of other pathology, such as hypertrophied tonsils, etc., should be carried out. Correction of ocular defects by the use of lenses is highly advisable if the patient's condition will permit the wearing of glasses. In our clinic all spastic cases are examined by the Department of Ophthalmology and the results are most gratifying.

Open surgery is not indicated except for the correction of some definite obstacles of progress. As spontaneous muscular co-ordination advances, characteristic deformities become manifest. If these are constant and progressive in degree, their correction by surgery should be contemplated. Surgery in spastic paralysis should be carried out according to the following axioms:

1 The deformity or disability must be static, progressive, or diminishing so slowly that recovery is not to be expected.

2 The disability must be constant in its manifestations.

3 The interrelationship of multiple deformities must be understood.

4 The benefit to be had by surgery must justify the risk.

5 Sufficient time must elapse between



surgical procedures to permit the re-establishment of a constant clinical picture

6 Methods of treatment other than surgical should not be neglected

7 The patient should be fortified for surgery by every means possible

Overactivity of the adductor muscles of the thighs is undoubtedly of first importance in its effect upon the function of the lower extremities. Scissors' gait or position of the legs is indeed an obstacle to progression as well as a definitely contributing factor to flexion deformity of the knee. Overactivity of the adductor groups is indirectly associated with the production of gross deformities of the feet, for, with the foot fixed by weightbearing, adductor action results in pronation and a gradual breaking down of structures supporting the longitudinal arch. In extreme instances, this resultant force is reflected in the development of severe hallux valgus deformity. Each of these deformities is, of course, influenced by overactivity of the internal rotators and muscle imbalance about the knee and ankle as well. Because of the major role of adductor overactivity in distorting the entire weightbearing line of the leg, its correction is of first importance. In our experience, stretching of the adductor group of muscles gives only temporary benefit at best. The same may be said of tenotomy or myotomy of the origin or upper part of the adductor groups. It is obvious that, when contractures have developed rendering active or passive abduction impossible, these later procedures must be employed. Conversion of the spastic paralysis of this muscle group to a flaccid paralysis by neurectomy is most beneficial. This is done most frequently by locating the anterior and posterior branches of the obturator nerve by dissection between the uppermost portions of the adductor longus and the pectineus. The anterior branch lies in front of the adductor brevis muscle while the posterior branch lies behind it. If both of these branches are divided, a satisfactory result is obtained. The posterior branch penetrates the external obturator

muscle at various levels and because of this, may be difficult to locate. Our results with this operation were fairly satisfactory. This procedure has been abandoned for the simpler and more uniformly successful resection of the main obturator nerve just proximal to the obturator fascia (Selig operation). This procedure is simple and most effective when carefully done.

In bilateral resections a transverse (Pfannenstiel) incision is made in the lowest transverse skin crease just above the pubis exposing the anterior sheaths of the rectus abdominis muscles. The sheath of the rectus is then split vertically over the center of the distal portion of the muscle. The lateral portion of the rectus sheath is then reflected and the lateral margin of the muscle outlined. This is retracted medially. The index finger is used as a blunt dissector following the posterior surface of the rectus to its insertion in the horizontal ramus of the pubis, then more deeply and laterally displacing the bladder and peritoneum posteriorly until the obturator nerve is palpated as it lies within the pelvic wall. Flat retractors are then inserted and the fatty areola tissue is gently opened. The nerve is easily located and may be identified by its position as it enters the neural foramen of the obturator fascia or by stimulation of the nerve. The nerve is then separated from the blood vessels that accompany it by means of a blunt hook. A ligature is placed at each of two levels along the nerve and a section of the nerve is excised. Care must be taken not to tear any of the many small veins and the possibility of anomalous arteries should be kept in mind. The peritoneum is permitted to fall back into place and the rectus fascia and skin sutured. No cast or apparatus is employed. In a consecutive series of resections of seventy-four nerves by this method, no complications of any nature have developed. The relaxation of the adductor group in this manner is more satisfactory than other methods we have employed. In no case have we had abduction deformities develop. Some adduction persists

due to secondary innervation from the sciatic nerve

Flexion deformity of or inability to extend the knee completely is next in importance. Here again, stretching is of only temporary benefit and more radical measures are justifiable. Lengthening of the hamstring muscles, stripping of the posterior capsule, supra condylar osteotomy or neurectomy of the hamstring branches of the sciatic nerve may relieve the active deforming factor in properly selected cases. Too frequently, however, complete active extension with or without weightbearing is lacking even though passive extension of the knee is possible. In many of these cases an abnormally high position of the patella is found. This observation was recorded and a corrective operation outlined in a paper entitled, "Re-establishment of Normal Leverage of the Patella in Knee Flexion Deformity in Spastic Paralysis," which was published in 1933. In order to lower the patella to a position at the level of the knee joint, the insertion of the patellar tendon is transplanted distally on the anterior aspect of the tibia. In some cases in which the spasm of the quadriceps is especially pronounced, difficulty in maintaining the reinsertion has been encountered. Several valuable suggestions have been made to improve the original technique. Carrell encircles the patella with wire which is fixed to the tibia. Burns transfixes the patella with a Kirschner wire and fixes it in the cast so as to aid in maintaining advancement. Many other possible variations of technique are obvious. The possibility of arrested growth of the anterior portion of the upper tibial epiphysis must not be overlooked. This is especially true if this operation is undertaken in young children. A plastic operation on the patellar tendon will accomplish advancement more safely. Cleveland, Wagner, Speed and many others have reported successful results with the basic principle of patellar advancement.

Transplantation of the biceps tendon to the patella has been practiced widely but this should supplement patellar advancement to give the best results. Equinus

deformity of the foot comes next in importance in the consideration of spastic disabilities of the lower extremities. The relation of this deformity to the stabilization of the knee must be kept in mind. Lengthening of the tendo Achilles results in good correction in many cases but in others greater disability. Resection of the motor branches of the popliteal nerve is also effective but difficulty is encountered in estimating the degree of neurectomy.

A fixed equinus deformity is frequently observed when the knee is held extended although a satisfactory dorsiflexion is obtained when the knee is flexed. This indicates a contracture of the gastrocnemius portion of the calf rather than of the entire calf group. Sherb recognized this fact and in 1935 published a paper describing an operation of multiple fasciotomies of the fascia of the gastrocnemius muscle. This procedure has been called the herringbone fasciotomy because of the alternating incisions used in lengthening this fascia. The large amount of muscle tissue in the soleus renders it more amenable to stretching as compared with the gastrocnemius.

H. A. Durham recently reported a simple but effective operation to correct internal rotation of the thigh. In this the anterior portion of the gluteus medius is divided at its insertion into the greater trochanter. A cast holding the legs externally rotated is employed postoperatively. Instability of the foot presents a greatly varied problem and methods of correction should be adapted to each individual deformity. In our experience, tendon transplant alone does not prove as satisfactory as when combined with arthrodesis of the posterior tarsus. In equinovarus deformity, lengthening of the posterior tibial tendon is helpful. Reinsertion of the anterior tibial tendon into the dorsum of the tarsus has given good results in a small number of cases. Overactivity of the peroneus longus muscle with valgus deformity of the forefoot responds favorably to lengthening of the peroneal tendon combined with a medial cuneiform osteotomy which includes the

scapho-cuneiform joint The relation of adductor spasm of the hip to this particular deformity bears re-emphasis

Correction of extension deformities of the toes should not be attempted until the tarsus itself is properly corrected Insertion of the long toe extensors into the metatarsals is the procedure of choice Arthrodesis of the interphalangeal joint of the first toe is done to prevent hammer-toe deformity

Disability due to spastic paralysis of the upper extremity resists correction to a much greater degree than that of the lower This is probably due to the finer movements which normal function implies as well as the greater degree of non-use that occurs in the upper extremity in the presence of any malfunction Pronation of the forearm associated with flexion of the wrist is usually the outstanding deformity

Treatment of this condition by constant stretching and splinting is discouraging and surgical measures are justifiable An understanding of the interrelationship of these deformities is essential An attempt at correction of the pronation of the forearm without correction of the wrist deformity invites failure, for the flexed wrist and dependent hand act to pronate the forearm when the patient is in the upright position, thereby offsetting the benefits of any correction that may have been accomplished Correction of flexion deformity of the wrist is therefore the key to this complex disability This may be accomplished by transplantation of the carpal flexors to the extensors or better, especially in older patients, by arthrodesis of the radio-carpal articulation holding the hand in fifteen to twenty degrees of extension Due to the presence of motion between the carpal bones, wrist fusion alone is only partially successful To obviate this factor, we have used a heavy cortical graft inserted subperiosteally on the dorsum of the radius, bridging the wrist-joint and fixed in a deep cleft in both rows of carpal bones, at times reaching to the metacarpals This graft is effective in immobilizing the wrist as well as the car-

pus, itself The function of the fingers is greatly enhanced by the improved position of the wrist With the wrist in good position, correction of the pronation may be accomplished by division of the pronator teres and pronator quadratus, or possibly by converting the pronator teres into a supinator (Tubby operation) Our results in section of the branches of the median nerve have been uniformly poor

We have had little occasion to employ the thumb-check operation or alter the function of the finger flexors by tendon lengthening Deformities of the shoulder and elbow rarely necessitate surgical intervention

In spastic paraplegia resulting from permanent cord damage of acquired nature, similar surgical procedures have been employed The extraperitoneal obturator and popliteal neurectomies are most useful The sensory and trophic changes which accompany these types of pathology limit the scope of surgery considerably

Choreoathetosis is probably the most distressing clinical entity met in dealing with spastic paralysis in the wider meaning of the term These patients, who are of more normal mentality than are those of Little's disease, present an ever varying picture of irregular muscular control involving a single extremity or all of the body Distortion of function of the facial muscles associated with attempts of speech are especially distressing No consistency of disability is present and, therefore, most usual surgical procedures are of little or no avail Intensive physical therapy carried out along the usual line of repeated exercises intensifies the condition rather than improves it A large variety of drugs have been employed in treatment without distinct results Occasionally improvement in gait follows stabilization of the feet This is due to the lessening of effort in the maintenance of balance and the relative simplification of pattern of nerve stimuli The bizarre ineffective movements are best explained by altered stimuli arising in the basal nuclei, especially Deiters' nucleus and the red nucleus as well as in Corpus striatum

The majority of these efferent stimuli pass along the rubrospinal tract which lies deep in the anterolateral portion of the cord. Putnam approached this problem by dividing the rubrospinal tract by anterolateral cordotomy. His results were encouraging. Stimulated by his report, we selected seven cases of choreo-athetosis for a trial of this procedure. Dr. Eric Oldberg performed cordotomies high in the cervical cords of these patients with definite but limited improvement in all cases. I have followed these cases to date and feel that the procedure fully justifies the risks involved. This type of surgery should be done by a well trained neurosurgeon rather than by one whose training has been in orthopedic surgery.

### Conclusions

- 1 The surgical treatment of spastic paralysis has been presented in an attempt to evaluate the procedures most useful in bringing relief to a large group of unfortunate individuals.
- 2 The need of continuation of less radical means of therapy is recognized.

### Discussion

Dr. Mather Cleveland, *New York City*—We are indebted to Dr. Chandler for a restatement of Little's classic description of the disease which so frequently bears his name.

In describing the underlying pathology of spastic paralysis a proper emphasis is placed on the loss of inhibitory action of the upper motor neurone. The actions of these patients are neither purposeful nor effective.

Dr. Chandler is quite correct in suggesting that a better title would be *Surgical Phases in the Treatment of Spastic Paralysis*. Surgery is only a small part of the picture. There is unfortunately as yet no treatment surgical or medical which is successful in combating the underlying pathology.

My conception of the use of surgery on these patients is that it is an attempt to make it easier for the spastic to bear his burden.

At St. Luke's Hospital surgical intervention in spastic paralysis has been confined largely to the lower extremities in an effort to overcome deformities and restore balance at the hips, knees and feet.

To overcome adductor spasm or scissors gait we have usually divided the adductor longus and

brevis and divided the anterior division of the obturator nerve. This has been adequate. I am very much interested in Dr. Chandler's approach for bilateral complete division of the obturator nerves. I can only wonder if it is not too final a step to take before trying the effect of partial division.

The advancement of the patella as described by Chandler has in our hands been a very successful procedure. It takes the spastic out of the jump position and improves his gait. There is usually a slight tendency for the knee flexion to recur and this happens because a little knee flexion and adduction is at times necessary to enable the spastic to balance himself. With completely straight knees and wide stance he may fall or totter badly.

In some of these badly flexed knees we have had to precede the advancement of the patella by posterior capsulotomy of the knee joints and by injection of the nerves to the hamstrings with absolute alcohol or at times by partial resection of these nerves.

The foot deformities of equinovarus or equinovagis are best controlled by subastragaloid arthrodesis and posterior ankle block. Lengthening of the heel cords is a procedure with some risk as it may increase knee flexion deformity. We have at times paralyzed the calf muscles temporarily by alcohol injection of the nerves.

Our experience with surgical intervention on the spastic deformities of the upper extremity is limited. Here stability is no longer required but rather a fine co-ordination of movement is needed which the underlying spastic condition defeats. We have occasionally fused in dorsiflexion a badly flexed wrist joint to allow the hand and fingers to grasp. This is only worth while if there is fairly good motor control at shoulder and elbow.

Dr. Chandler has wisely emphasized the fact that surgical intervention is but a small part in the training of spastics. Endless patience is required to educate them to use their muscles so they may assume as nearly a normal role in the community as possible.

Dr. Lewis Clark Wagner, *New York City*—I am very much impressed with Dr. Chandler's statement that operation can be considered only as a step in the treatment of spastic paralysis. Education—mental, physical and moral—is the first and most important step in the rehabilitation of those affected with this type of disease. A great deal more research must be done on the etiology of spastic paralysis and I sometimes wonder whether it should be classed as a birth injury exclusively. I have had the opportunity to observe this disease in twins delivered by

caesarian section Certainly, the changes in the central nervous system must have antedated the birth of the children

Dr Thibodeau, Dr Carr, and I have reviewed 554 operations for the relief of deformities of patients affected with spastic paralysis, and we have been surprised at the figures of the failures in standardized procedures Briefly, operations for stretchings of the deformities of spastic paralysis were 90 per cent failures Lengthening of the tendo Achilles resulted in 68 per cent failures because of recurrence of the deformity Resections of the nerve to the gastrocnemius without contraction of the muscular groups were 70 per cent successful In the groups where contractures of the gastrocnemius group were noted, lengthening of the tendo Achilles and resection of the nerves to the gastrocnemius group were pretty nearly always successful

I agree with Dr Chandler that bony operations associated with tendon transplantation about the foot give the best results The posterior bone block which he has not mentioned for spastic equinus in the older individuals has been very satisfactory in our hands Dr Chandler's operation for advancement of the patellar tendon deserves special mention and, after correction of the flexion deformity by manipulation or osteotomy of the femur, it is the operation of choice for restoration of normal leverage of the knee

My statistics of the operations performed during the period from 1926 to 1937 show seven cases of this type, all with good results, and I am sure that in the last year, we have augmented

this series by many other successful cases I can recommend the operation wholeheartedly and know that the number of biceps femoris transplantations will be greatly lessened in the future because of the use of this operation I have had no experience with the "herring bone fasciotomy," but I welcome any procedure that can be done without the necessity of lengthening the tendo Achilles

I have not performed the intra-abdominal neurectomy of the obturator nerve, as I have been content with the old method of Stoffel, but I hope to try it in the future. Once the technique is mastered, I am sure it will prove very simple. Operations on the spinal cord in our series have not been successful enough to warrant the procedure, as the paralyses resulting from section of the spinal tracts have been worse than the athetoid manifestations Sympathetic ramus section or a ganglianectomy is mentioned only to be condemned Our eight cases, two performed by Royle himself, showed all to be failures

In conclusion, the surgical treatment of spastic paralysis should not be the correction of deformity so much in the greater part, but the removal of the separate offending obstacles which produce the retardation of function to an individual part We cannot expect to make these afflicted persons perfect, to "leap as a hart," as the saying goes, but we can help a great many to be useful citizens by removing obstructions to locomotion and function By removing these obstacles, greater attention can be given to the re education with associated relief of spasticity, which is most desired

## FACING PEONAGE

The fighting line against major epidemics in this country has been the body of physicians in private practice

They have been the infantry in the army of health preservation and restoration They have battled at the bedside while politicians organized such manifest futilities as shotgun quarantines, and subjected traveling families to inhuman hardships

It is this body of veterans of thousands of battles against death and disease who are today threatened with the degradation of their profession on one hand and gathering economic difficulties on the other

It is this group of devoted men who face that peonage into which government has already forced the far too large labor surplusage, and is seeking now to constrain the professions

Are you and I going to let the doctors fight alone, or are we going to tell our Assemblymen and Senators to follow the recommendations of the Medical Society of the State of New York?

You have a vital concern Do you want to be your family doctor's patient, or case No 17521?—John A Heffernan, in the *Brooklyn Eagle*

# TREATMENT OF PNEUMOCOCCUS III PNEUMONIA WITH RABBIT SERUM AND SULFANILAMIDE

ROBERT T. GARRETT, M.D., Southampton, and JOHN RUSSELL TWISS, M.D., New York City

(From the Department of Medicine of the New York Post Graduate Hospital)

THE treatment of pneumococcus III pneumonia is of great practical importance because of its prevalence, high mortality, and the resistance of bacteremic cases to our present horse serum. In view of this fact there is urgent need of further study of specific methods of treatment. As a contribution to this investigation we are here reporting a series of 8 cases of pneumococcus III pneumonia treated by specific rabbit serum and sulfanilamide. Of the 4 cases treated with rabbit serum, 1 with bacteremia, all recovered. Of those treated with sulfanilamide, there were two recoveries, one failure to respond to treatment, and one death.

The history of pneumococcus III (formerly called streptococcus mucosus) begins with its classification by Dochez and Avery<sup>1</sup> in 1913. A review of cases reported in the literature shows certain clinical characteristics of pneumococcus III pneumonia which are of interest. Bullowa<sup>2</sup> found this type to be exceeded in prevalence only by Type I pneumococcus pneumonia. Finland and Sutliff<sup>3</sup> report an incidence of bronchopneumonia of 21 per cent in pneumococcus III pneumonia in contradistinction to 3 to 5 per cent incidence in Types I and II.

Pneumococcus III pneumonias occur quite commonly in the aged. Cecil, Plummer, and McCall<sup>4</sup> have reported 65 per cent of their patients with pneumococcus III pneumonia over the age of 40. Cecil, Baldwin, and Larsen<sup>5</sup> found that 34 per cent of all their pneumonias in patients over the age of 60 were caused by the pneumococcus III organism, this incidence being about twice that of Types I and II. All of these investigators have stressed the importance of predisposing factors such as age, debility, chronic alcoholism, and cardiovascular disease.

Seasonal variations are striking, most of the cases occur between December and March.

The onset of pneumococcus III pneumonia is variable. According to Bullowa<sup>2</sup> the characteristic symptoms of the lobar type are the abrupt onset, frequently with chills, fever, pain in the side, cough, or rusty sputum. Finland and Sutliff<sup>3</sup> however, state that with bronchopneumonia the onset is frequently gradual and there may be none of the characteristic symptoms. Both types are apt to terminate by lysis, the average duration of fever being nine days. The average stay in the hospital is reported by Millett<sup>6</sup> as being twenty-two to twenty-three days.

The average mortality in pneumococcus III pneumonia is high, the rate of 40 to 60 per cent in various groups<sup>2,3,4</sup> being exceeded only by Type II pneumonia. Advanced age and chronic disease are conceded to be a factor in this high mortality. Cecil, Plummer, and McCall<sup>4</sup> reported that in pneumococcus III pneumonia the mortality rate in chronic alcoholics was 50 per cent, in patients with cardiovascular disease, 77 per cent. Most important, however, seems to be the bacteremia which occurs in about one third of the patients. Finland and Sutliff<sup>3</sup> reported a 100 per cent mortality in 46 cases of bacteremia. Blake<sup>7</sup> reports one recovery in 21 cases. Bullowa's<sup>2</sup> series showed a mortality of 96 per cent. Cecil, Baldwin, and Larsen<sup>5</sup> give the average mortality as being approximately 90 per cent.

The previous specific methods of treatment of pneumococcus III pneumonia have proved almost uniformly unsatisfactory. The ineffectiveness of horse serum has been mentioned. Among the methods of treatment tried without results are pneumococcus vaccine, convalescent

serum, Huntoons pneumococcus antibody serum, and Felton's concentrated serum. The use of donors immunized with pneumococcus vaccine was tried in 6 cases by Barach,<sup>8</sup> who reported no apparent effect from this treatment, his 4 cases of bacteremia all resulting fatally. The primary problem as stated by Cecil,<sup>4</sup> et al is the stimulation of a high titer of immune bodies by the injection of killed or living Type III pneumococci.

In approaching the problem of making a satisfactory antipneumococcus serum, Horsfall, Goodner, MacLeod, and Harris<sup>9</sup> claim that there are certain disadvantages in using horses for this purpose, such as their expense, the uncertainty of producing a potent serum, the limited serum strength, the anaphylactic reactions which so frequently follow the use of horse serum, and the subsequent serum sickness. They therefore made a refined rabbit serum, which they considered less subject to these objections, by the repeated intravenous injections of pneumococci, filtering the serum and absorbing with sterile washed kaolin.

Among the advantages of rabbit serum over horse serum, as stated by Horsfall<sup>9</sup> and his associates, are the smaller size of the antibody (which allows the greater penetration into tissues) and the concentration which they obtained of 2,000 units per cc. Practically all rabbits inoculated produced potent serum, the cost for equivalent amounts of antibody being therefore less than that of horse serum. Little or no reaction was said to result from the use of this serum in 22 patients with lobar pneumonia of Types I, II, VII, and VIII. Recovery from the pneumonia occurred in all cases, notwithstanding the presence of bacteremia in 12 patients.

Studies on the immunity of the rabbit to pneumococcus III pneumonia infections have been made by Tillett,<sup>10</sup> who explains the failure of horse serum in treatment as being due either to the inagglutinability of the organisms having a mucoid capsule or to the absence of agglutinins in the serum. Tillett,<sup>10</sup> however, found that the injection of pneumococcus III

antigen into a series of rabbits failed to produce specific agglutinins in 86 per cent. Further studies, however, showed that the intravenous injection of large doses of encapsulated pneumococcus III organisms failed in most cases to kill rabbits, which Tillett<sup>10</sup> explained as being due to antibody action destroying the protective capsules. Active immunization against virulent strains of the encapsulated pneumococcus III was finally accomplished in rabbits by the repeated injections of heat-killed cultures of pneumococci. An excellent discussion of the use of rabbit serum has been published by Bullowa.<sup>2</sup>

Through the kindness of Dr Jesse G M Bullowa we were able to obtain Type III antipneumococcus rabbit serum<sup>11</sup> for treatment in 4 critical cases of pneumococcus III pneumonia at the New York Post Graduate Hospital. A skin test was found to be negative in each case. Owing to a severe degree of shock which followed a single intravenous injection (which we are given to understand does not occur with the purified product now available), all serum was given intramuscularly. No reactions of any consequence occurred after the intramuscular injections. The dosage varied from 80,000 to 104,000 units, the serum being started on the second, third, and sixth days of illness.

### Case Reports

*Case 1*—V L, female, age 60, was admitted with a history of four days' duration of chills, fever, cough, hemotysis, nausea, and vomiting. Previous history of asthma, pneumonia three years before admission. The initial physical examination showed the patient to be extremely toxic and irrational, temperature 102 F, pulse 110. Signs of dullness and diminished breath sounds of the right lower lobe. The x-ray diagnosis (by Dr William H Meyer) was a bronchopneumonic infiltration of right lower lobe. Sputum showed pneumococcus III. Blood cultures were reported by Dr Adele Sheplar to be negative. Blood count: leucocytes 13,000, polymorphonuclears 89 per cent. Urinalysis: numerous granular casts. Blood chemistry: normal. Beginning the sixth day, antipneumococcus Type III was given, 15 to 20 cc every three hours intramuscularly. A total of 80,000 units were given in twenty-four hours. A severe chill followed the

first dose of 15 cc. but not subsequent injections. The clinical condition of the patient after twenty-four hours of serum treatment was improved; the temperature and pulse fell gradually to normal over a period of four days. The succeeding course was essentially uneventful; the patient being discharged thirty-two days after admission.

**Case 2**—A.W. male age 61 was admitted with a history of two days' duration of pain in the chest, malaise, cough, chills and fever. Dyspnea on day of admission. Previous history of cardiac disease probably arteriosclerotic. Physical examination showed an acutely ill patient with respiratory distress, having dullness diminished breath sounds, bronchial breathing and scattered moist rales mostly in the right lower chest posteriorly. X-ray studies later showed a diffuse bronchial infiltration of both central lung fields, with lobar consolidation of the right lower lobe, where there was concomitant pleural thickening. Sputum examinations taken on admission showed Type III pneumococci; blood culture was negative. Blood count showed 39,800 white blood cells, polymorphonuclears 95 per cent.

The skin tests and dilute serum intravenously giving no reactions. 5 cc. of Type III rabbit serum was given intravenously. Twenty minutes later the patient developed a severe chill with a temperature of 104.5 F. became cyanotic and cold; pulse rate about 160; radial pulse almost imperceptible. Blood pressure dropped from 96/60 to 50/30. While the patient was in shock, auricular fibrillation developed (as proved by the electrocardiogram). The patient gradually responded to shock treatment and large doses of digitals; the fibrillation stopped and there was definite clinical improvement on the second day. The blood culture at this time showed pneumococcus III (Dr. Sheplar). At this time there was an elevation in the temperature to 103 F; pulse rate being 110. Upon the recommendation of Dr. Bullock, who saw the patient in consultation, Type III rabbit serum was given intramuscularly in doses of 10 to 30 cc. After 40,000 units had been given there was clinical improvement, the blood culture was at this time sterile. The subsequent clinical course of the patient was characterized by extreme toxemia and abdominal distention, hiccoughs, intermittent fibrillation and heart block. The temperature fell by lysis, becoming normal two days after the cessation of serum treatment. The subsequent course was again uneventful; the patient being discharged on the twenty-seventh hospital day in good condition.

**Case 3**—M.D. female, age 43 was admitted October 4 1937 for a radical left mastectomy

which was performed by Dr. John F. Erdmann. The patient had had three attacks of pneumonia in the ten years previous to admission. The day following operation the patient developed chills and fever of 105 F; pulse was 130; respirations 40. There were definite signs of consolidation by x-ray. Sputum examination showed a pneumococcus III; blood culture was sterile. Leucocytes were 12,000; polymorphonuclears 95 per cent. The patient was placed immediately in an oxygen tent where she remained for six days. Sulfanilamide was given, 80 grains the first day, 70 grains the second, with no appreciable effect upon the temperature, pulse, or respiration. The patient was restless, delirious, and cyanotic during this period. Rabbit serum was begun the third day, the skin test being negative. The serum was given entirely intramuscularly, an initial dose of 1/2 cc. being doubled every forty minutes until a maximum of 55 cc. was given. The total dosage of serum was 104,000 units. During six hours after completing the serum, the patient began to improve, having less respiratory distress; the temperature dropping to 102 F; the pulse rate decreasing from a rate of 140 to 120. The temperature again went to 104 F twenty-four hours later but gradually fell by lysis, returning to normal in eleven days. The patient was discharged eighteen days after the onset of the pneumonia.

**Case 4**—M.S. male, age 43 was admitted January 26 1938, and was seen in consultation with Dr. Charles Polindexter. There was a history of indigestion and intermittent attacks of colic in the right upper quadrant of six weeks duration. Past history of migraine. Type II pneumococcus pneumonia four years before admission. Physical examination showed some tenderness in the right upper quadrant; temperature was 99.5 F; pulse rate 90; respirations 22. Leucocytes were 11,600; polymorphonuclears 55 per cent. A diagnosis of acute cholecystitis was made and an inflamed edematous gallbladder and a diseased appendix were removed by Dr. John F. Erdmann. A cough developed ten hours after operation; examination at this time showing diminished breath sounds in the right base posteriorly with a small area of bronchial breath sounds. The temperature was 101.5 F; pulse rate 120; respirations 40. Sputum examination showed pneumococcus III; blood cultures were sterile. The intradermal test being negative 1/2 cc. of rabbit serum was given intramuscularly, doubling the dose every forty minutes. A total of 92,000 units were given in five hours without reaction. The temperature began to fall twelve hours after beginning the serum; the temperature becoming normal the fifth postoperative day.



WHILE the use of sulfanilamide in the treatment of pneumococcus III pneumonia has been extensively discussed, there are few reports of results following this method of treatment. Heintzelman, Hadley, and Mellon<sup>12</sup> call attention to the high incidence of lobar and influenzal pneumococcus III pneumonias in eastern cities during 1937 and report 9 cases of this character treated by sulfanilamide. Of the 11 cases treated, 1 with bacteremia and 1 without bacteremia died, giving a mortality of 18 per cent. In a control series of 12 untreated cases, 2 with bacteremia and 8 without bacteremia died, giving a mortality of 83 per cent. The same authors quote Robinson of the Allegheny General Hospital, whose 7 cases of pneumococcus III pneumonias with bacteremia all died. Millett<sup>6</sup> has reported 1 case of pneumococcus III pneumonia recovering following the use of sulfanilamide.

The 4 cases of pneumococcus III pneumonia here presented had in each case a negative blood culture and were treated with sulfanilamide by mouth, supplemented in several instances by Prontylin given intramuscularly. The first case was relatively mild and was treated promptly, making a good recovery. Two patients having indefinite and atypical symptoms making a differential diagnosis difficult were treated on the second and third days of their illness, one recovering and a woman of 53 dying on the seventh day of her illness. The fourth case was treated for forty-eight hours with sulfanilamide, which was then discontinued in favor of rabbit serum because of the critical condition of the patient and her complete lack of response to sulfanilamide.

*Case 1* —L M, male, age 60, was seen outside in consultation with Dr Peter Irving in April, 1937. Chills and prostration twenty-four hours before admission were followed by a productive cough and sense of oppression in the chest. Physical examination showed diminished breath sounds in the left base, where x-ray showed a bronchopneumonic consolidation. Blood culture was negative. Leucocytes were 6,800, polymorphonuclears 74 per cent. Sulfanilamide 10

grains were given by mouth every four hours for forty-eight hours, 20 cc of Prontylin being given twice hypodermically the first day, 10 cc three times the second day. Within twelve hours there was a drop in temperature from 104.6 F to 99 F, the pulse rate being reduced from 108 to 84. The sulfanilamide was continued for a week, 10 grains three times daily. The temperature remained relatively low for three days, becoming, however, 103 F the seventh day. After this there was a fall by lysis, the temperature becoming normal on the nineteenth hospital day. At the end of the first week of treatment it became evident that the patient was unable to empty his bladder and that obstruction with overflow was present. This was due to a prostatic hypertrophy, without infection, for which a prostatectomy was later successfully performed.

*Case 2* —H B, male, age 32, was admitted on the Surgical Service, November 2, 1937, seen by courtesy of Dr Reynold Church. There was a history of epigastric pain of thirty hours duration, associated with chills, fever, nausea, vomiting, and faintness, no cough. Physical examination showed an acutely ill male with normal lung resonance, scattered moist râles of the right base, and generalized abdominal tenderness which was most marked in the right lower quadrant. A diagnosis of acute appendicitis with bronchitis was made, followed by an appendectomy under spinal anesthesia.

The day following operation the patient became cyanotic and perspired freely, a cough being associated with hemoptysis. Sputum examination showed pneumococcus III, the blood culture was sterile. The x-ray showed a bronchopneumonic infiltration of the right lower lobe. The patient was given 15 grains of sulfanilamide every four hours, 1 ampule of Prontylin intramuscularly three times daily. Oxygen was given by nasal catheter the first day. After thirty-six hours of sulfanilamide treatment there was clinical improvement, with reduction in the fever, pulse, and respiratory rate. The dosage of sulfanilamide was gradually reduced. The temperature became normal in the tenth day after admission and the patient was discharged in good condition on the seventeenth day.

*Case 3* —S C, female, age 53, was admitted on the Surgical Service, November 20, 1937, with a history of pain in the right upper quadrant, with nausea, vomiting, and fever, of one day's duration. The tentative diagnosis was empyema of the gallbladder, the physical examination revealing no chest signs but tenderness and spasm in the right upper quadrant. The leucocyte count was

15 000 polymorphonuclears 88 per cent On the third day of her illness the patient developed a respiratory rate of 36 per minute, cyanosis and cough. There was dullness with diminished breath sounds in the right base the x ray showing a consolidation of the right middle lobe with intralobular involvement Sputum typing showed the infection to be due to pneumococcus III Blood culture was sterile

The patient having on the third day a temperature of 103 F and a pulse of 120 with cyanosis and labored respirations, was put into an oxygen tent. Since the tablets of sulfanilamide were refused 30 grains of sulfanilamide were given in a clysis the first day Prontysil was also given intramuscularly 40 cc the first day 60 cc. the second The second and third days 60 grains of sulfanilamide were given, dissolved in clyses. During this period the polymorphonuclear cells dropped from 4 to 3.5 million the hemoglobin from 80 per cent to 70 per cent the leucocytes rose from 11 600 to 28 000 The blood culture was sterile. The condition of the patient became progressively worse her coma and toxemia increasing notwithstanding the treatment Her death occurred seven days after the onset of pneumonic symptoms.

Case 4—M.D. female age 43, is discussed under Case 3 treated by rabbit serum The patient previously described as toxic and critically ill was treated in an oxygen tent for two days being given 80 grains of sulfanilamide the first day and 70 grains the second day The blood culture was sterile. There being no apparent effect clinically or upon the temperature, pulse or respirations, the sulfanilamide was stopped and rabbit serum begun on the third day About twenty-four hours after the beginning the rabbit serum the patient began to show clinical improvement, making eventually an uneventful recovery

## Discussion

Pneumococcus III pneumonia is one of the most common and most frequently fatal types. It is common in the aged and in those with chronic disease The incidence of bronchopneumonia is usually high, up to a fifth of the reported cases showing no lobar consolidation The mortality in the nonbacteremia cases is about 40 per cent, with bacteremia the estimated average mortality is 96 per cent.

Although conclusions cannot be drawn from a limited number of cases, 4 patients (1 with bacteremia) are here reported who

recovered following the intramuscular use of relatively small doses of rabbit serum, 80,000 to 104,000 units Most investigators, however, favor larger doses by the intravenous route, as explained by Bullowa in his *Management of the Pneumonias* <sup>2</sup>

A further series of 4 cases of pneumococcus III pneumonia is presented which were treated with sulfanilamide. Two of these patients recovered One patient treated with sulfanilamide without apparent effect for a period of forty-eight hours finally recovered following the use of rabbit serum One patient who refused medication by mouth became progressively worse and died notwithstanding the use of Prontysil intramuscularly and sulfanilamide by clysis

The impressions gained by these studies were that pneumococcus III rabbit serum given intramuscularly had a beneficial effect upon 4 patients who were extremely toxic and critically ill Sulfanilamide given under the same circumstances showed no apparent effect in 2 cases, in 2 others less severe improvement followed its use. Our limited experience with this drug would seem to indicate that if no response occurs within forty-eight hours of treatment the sulfanilamide should be discontinued

Since the onset of the disease in most of the patients here presented was atypical having no really diagnostic symptoms or findings in some cases until the third or fourth day of their illness, the importance of considering pneumonia in differential diagnosis is stressed All suspicious cases of this character should be in our opinion hospitalized and have sputum typing and blood cultures done, as well as having an x ray of the chest.

## Bibliography

- 1 Dochez, A. R. and Avery O T J Exp Med 33 477 (Oct.) 1917
- 2 Bullowa, Jesse G. M. The Management of the Pneumonias Oxford University Press New York, 1937
- 3 Finland, M., and Sutcliffe W D Arch. Int. Med. 83: 481 (April), 1934
- 4 Cecil, R. L., Plummer, N. and McCall, M Am. J. Med. Sc. 191 305-319 (March) 1936
- 5 Cecil, R. L. Baldwin, A. S., and Larsen, N P Arch. Int. Med. 40: 253 (Sept.) 1927
- 6 Millett, J: N Y State J Med. 37 1 743-1 747 (Oct. 18) 1937
- 7 Blake Francis G Ann. Int. Med., 5: 672 (Dec.) 1931. Trans. Assn. Am. Physicians 47 152-160 (1932)

- 8 Barach, A. S. Am J Med Sc., 182 811 (Dec.),  
1931  
9 Horsfall F L, Jr, Goodner, K., MacLeod, C. M.,  
and Harris, A. H., Jr J A.M.A., 108 1,483-1,490 (May  
1), 1937  
10 Tillett, W S J Exp Med, 45 713 (April 1),

- 1937 Ibid, 45 1093 (June 1), 1937 Ibid, 46 343 (Aug  
1), 1937  
11 Furnished by Lederle Laboratories  
12 Heintzelman, J H. L., Hadley, P B, Mel  
lon R R Amer J Med Sc, 193 760 703 (June),  
1937

## NEW YORK CITY DEPARTMENT OF HEALTH

The Bureau of Social Hygiene of the Department of Health, New York City, announces Part One of a course in "Social Hygiene." It is offered to physicians and other interested persons as part of the educational efforts in modern syphilis and venereal disease control.

Lectures, which were started February 4, are given on Saturday mornings, at 10 30 in the Department of Health Building, 125 Worth Street, Conference Room, second floor. Each lecture is repeated on the following Tuesday afternoon, at 4 00 at 130 Leonard Street (Department of Health Building), clinic waiting room. Two opportunities to hear each lecture are offered.

The seminar will include discussions of the history of syphilis, the past and contemporary venereal disease control programs. Emphasis will be on public health, laboratory diagnosis, clinical interpretation of syphilis, and nonsyphilitic venereal diseases.

Stress will be laid on the importance in the modern control effort of the physician, epidemiologist, social worker, nurse, and investigator.

Lantern slides and motion pictures will be

shown and literature distributed. Free discussion from the floor will be encouraged.

### PART ONE

Department of Health Aspects of Syphilis, by Dr Theodore Rosenthal was given on Feb 4 and 7. Mythology and History of Syphilis (to 20th Century), by A. A. Brown, Jr, was given on Feb 11 and 14.

Below is the schedule for the remaining lectures of Part One. Feb 18 and 21. Modern History and Present Needs, by Dr Herman Goodman. Feb 25 and 28. Cause and Epidemiology, by Dr Daniel F. Crowley. Mar 4 and 7. Symptomatology and Dangerous Lesions, by Dr Louis Chargin. Mar 11 and 14. Syphilis in Pregnancy, Family Consequences, Early Congenital Syphilis, by Dr Margaret Davis. Mar 18 and 21. Congenital Syphilis. Late Disabling Permanent Changes, by Dr Nathan Sobel. Mar 25 and 28. The Burden of Syphilis on Society, Cost of Medical Care, Direct and Indirect, by Mr Philip S. Broughton.

Subjects and speakers for Part Two will be announced early in March.

## PNEUMONIA INSTITUTE PLANNED FOR TROY

The Medical Society of the County of Rensselaer, in collaboration with the New York State Medical Society, the State Department of Health, and one of the hospitals in Troy, will sponsor a graduate institute for physicians on the "Diagnosis and Treatment of Pneumonia," to be held March 2.

A full day will be devoted to the clinical and therapeutic aspects of pneumonia. Lectures on the early symptoms and signs, bacteriologic diagnosis, serum, and chemotherapy will be

given by nationally known authorities on the subject. Practical demonstrations of the technique of serum administration and oxygen therapy will be given. Ample time will be allowed for questions and discussion.

Physicians in counties adjacent to Rensselaer are invited to attend. Applications should go at once to the Chairman of the Public Health Committee of the Rensselaer County Medical Society, Troy, New York. Registration will close February 23.

The British Medical Association is forming a central medical film library to lend films for local meetings. Practitioners who have made films

of medical interest have been asked to contribute copies to the library, which is expected to prove of great value to the profession.

# THE ECONOMIC STATUS OF PATIENTS ADMITTED TO TUBERCULOSIS CLINICS OF THE NEW YORK CITY DEPARTMENT OF HEALTH

H. R. EDWARDS, M D, *Director of the Bureau of Tuberculosis*

HAZEL D. CONNELL, *Secretary Tuberculosis Records*

THE continued expansion of clinic services within recent years in New York City has caused some alarm among physicians engaged in the private practice of medicine. There has been criticism to the effect that free clinics are accepting for diagnosis and supervision many patients able to pay for such services under private medical care. Recently medical societies have attempted to set up certain standards of income as a basis for admission to free or pay clinics and to establish standards for fees charged by clinics. Consequently, it is important to make available information concerning the economic status of cases admitted to the tuberculosis clinics of the New York City Department of Health. This paper, therefore, sets forth the results of a careful study of the income status of a representative sample of clinic patients.

## Tuberculosis Clinics in New York City

Preliminary to the discussion of income status, it seems suitable to give a brief description of the clinics. The Department of Health operates twenty-two tuberculosis clinic stations in the five boroughs. In these stations three distinct services are rendered, all of which are entirely free. They are (1) diagnostic, (2) consultation, and (3) pneumothorax. All of these services are open to any resident of the City of New York, regardless of income, in accordance with statutes of the State of New York for the control of communicable diseases.

The purpose of the diagnostic clinic is to examine for tuberculosis anyone who applies for examination, to arrange suitable care for those in need, and to examine and supervise contacts of diagnosed cases over a period sufficient to assure their

ultimate safety. These clinics supervise also the ex sanatorium case discharged for ambulant care.

There are nine consultation clinics, and their purpose is to render chest consultation service to private physicians who have cases unable to pay for x rays or to pay standard fees charged by chest specialists. This service is free both to the patient and to the physician. The work of two of these clinics has been recently reported in the literature.<sup>1,2</sup>

There are six pneumothorax services operated in selected clinics in the city. They are for the supervision of ambulant pneumothorax cases discharged from the various city hospitals.\*

However, the Department of Health does not render all tuberculosis service in the city. The city is subdivided into Health Center Districts which comprise approximately 250,000 to 300,000 population each. In general, tuberculosis services are set up to conform to these districts. In some districts the routine diagnostic and pneumothorax services are available in the outpatient services of public or private hospitals. The combined services as indicated in the above three categories (diagnostic, consultation, and pneumothorax) total sixty-two for the city. Thirty-six, or 58 per cent, are under the Department of Health, fourteen or 23 per cent, are under the Department of Hospitals, and twelve, or 19 per cent, are under private hospitals or agencies.

The percentage varies according to type of service. Thus, the Department of Health operates 80 per cent of the diagnostic, 90 per cent of the consultation, and 31 per cent of pneumothorax

\* Initial pneumothorax is not attempted in any of these clinics.

TABLE 1 DISTRIBUTION OF FAMILIES STUDIED FOR ECONOMIC STATUS IN THE VARIOUS BOROUGHES OF NEW YORK CONTRASTED WITH THE TOTAL ADMISSIONS TO CLINICS—JULY-DECEMBER, 1936

| BOROUGHES      | SAMPLE STUDIED | TOTAL ADMISSIONS TO CLINICS, JULY-DECEMBER, 1936 |  |
|----------------|----------------|--|--|
|                |                | Percentage                                       |  |
| Total New York | 100 1          | 100 0  |  |
| Manhattan*     | 22 6           | 30 7   |  |
| Bronx          | 14 3           | 14 8   |  |
| Brooklyn       | 45 0           | 39 8   |  |
| Queens         | 15 5           | 12 2   |  |
| Richmond       | 2 7            | 2 5  |  |

\* Excluding New York Hospital Vanderbilt and Meinhard Clinics. The New York Hospital and Vanderbilt Clinics are supported in part by Department funds and serve designated districts. They are not included in this study because the returns were not as complete as in those clinics completely under our control. At the time of this study Meinhard Clinic was used as a survey station for families on home relief. It is believed that the income status in these clinics do not vary from the findings in our regular clinics.

In the latter clinics we carry approximately 45 per cent of the ambulant clinic case load.

### Income Status of Patients Admitted to Diagnostic Clinics and Pneumothorax Service

This study of income status of clinic patients consists of records for 5,963 individuals admitted to the diagnostic clinics and 280 individuals admitted to the pneumothorax services during the latter half of the year 1936. Each new case admitted was interviewed by the nurse in order to determine the source and amount of the total income from all wage-earners in the family at that time. A record of the number of individuals in the family was also secured from the patient so that income might be considered in relation to size of family. The data were carefully reviewed for uniformity and completeness of recording.

*Diagnostic Clinics*—It is believed that the sample described above is representative of the Department of Health Clinics for the city as a whole. Table 1, above, shows for the sample drawn from the diagnostic clinics the proportion of persons from each borough compared with the distribution of total admissions to clinics by borough. The sample contains a slightly higher proportion of persons from Brooklyn clinics and fewer from Manhattan clinics than does the propor-

tion of total admissions shown. However, the sample described in this study may be considered as fairly representative of the persons admitted to the tuberculosis clinics of the Department of Health in every borough of the city.

Table 2, page 353, shows for each borough the income classification for persons admitted to diagnostic clinics. For the total city, 36.1 per cent reported no income. They were either on home relief or supported by a charitable agency or some other form of assistance. The proportion falling into this class, no income, varied in each borough, from 25 per cent in Queens to 44 per cent in Manhattan. If to this class be added those whose income was less than \$1,000 per year, the result is 69 per cent for the total city who had either no income (except charitable or relief assistance) or had less than \$1,000 per year. By borough, the proportions in this class vary from 55 per cent for Queens to 71 for Brooklyn and 83 per cent for Manhattan. It can be readily seen that a relatively small proportion of persons coming to the diagnostic clinics reported an income of over \$1,000 per year. The proportion which reported an annual income of \$2,000 or more varied from 1.6 per cent in Manhattan to 6 per cent in the Bronx and 6.7 in Queens.

The data shown above indicated that the persons admitted to the diagnostic clinics came mainly from families of low economic status judged by normal income. Income taken in relation to size of family is even more enlightening. Table 3, page 353, shows the average size of family and the number of persons per wage-earner for each income class, also the average size of families with no wage-earners. For families where there were wage-earners, the average size of family increased steadily with income, from 3.1 persons per family for those in the income class of under \$500 per year to 5.3 persons per family for those where income was \$2,000 or more per year. For all income groups except the lowest the average size of family was well above the median size of family, 3.36 for New York City as a whole. The persons per wage-earner

TABLE 2 PERSONS ATTENDING DIAGNOSTIC CLINICS CLASSIFIED ACCORDING TO AMOUNT OF FAMILY INCOME FOR EACH BOROUGH OF NEW YORK CITY

| BOROUGH    | TOTAL FAMILIES | INCOME BASED ON WAGE EARNERS |                   |                   |               | \$2 000 and Over      |
|------------|----------------|------------------------------|-------------------|-------------------|---------------|-----------------------|
|            |                | Less Than \$500              | \$500-999         | \$1 000-1 499     | \$1 500-1 999 |                       |
| PERCENTAGE |                |                              |                   |                   |               |                       |
| Total—City | 100 1          | 4 9                          | 23 4              | 18 8              | 7 8           | 4 1                   |
| Manhattan  | 100 1          | 5 9                          | 33 2              | 12 1              | 3 6           | 1 6                   |
| Bronx      | 99 9           | 2 4                          | 24 5              | 21 6              | 9 8           | 6 0                   |
| Brooklyn   | 99 9           | 5 4                          | 28 3              | 18 7              | 6 9           | 3 8                   |
| Queens     | 100 0          | 4 9                          | 26 0              | 24 2              | 13 7          | 6 7                   |
| Richmond   | 99 9           | 1 9                          | 27 7              | 25 2              | 10 3          | 3 9                   |
| NUMBER     |                |                              |                   |                   |               |                       |
| Total—City | 5,530          | 270                          | 1,572             | 1 037             | 420           | 226                   |
| Manhattan  | 1 106          | 70                           | 387               | 145               | 43            | 19                    |
| Bronx      | 777            | 19                           | 100               | 108               | 76            | 47                    |
| Brooklyn   | 2,540          | 135                          | 718               | 476               | 176           | 90                    |
| Queens     | 552            | 42                           | 224               | 209               | 118           | 58                    |
| Richmond   | 165            | 3                            | 43                | 39                | 16            | 6                     |
| BOROUGH    | Home Relief    | NO WAGE EARNERS IN FAMILY    |                   |                   |               | INCOME STATUS UNKNOWN |
|            |                | Charity Agencies             | Family Assistance | Living on Savings | Institutions  |                       |
| PERCENTAGE |                |                              |                   |                   |               |                       |
| Total—City | 28 0           | 4 6                          | 1 4               | 1 3               | 0 8           |                       |
| Manhattan  | 37 8           | 3 5                          | 1 2               | 1 2               |               |                       |
| Bronx      | 20 1           | 5 5                          | 2 2               | 1 5               |               |                       |
| Brooklyn   | 28 9           | 4 8                          | 1 5               | 1 5               | 0 4           |                       |
| Queens     | 16 2           | 5 8                          | 0 0               | 0 7               | 1 2           |                       |
| Richmond   | 12 9           | 4 5                          |                   |                   | 13 5          |                       |
| NUMBER     |                |                              |                   |                   |               |                       |
| Total—City | 1,549          | 257                          | 75                | 73                | 42            | 433                   |
| Manhattan  | 452            | 42                           | 14                | 14                |               | 149                   |
| Bronx      | 203            | 43                           | 17                | 14                |               | 78                    |
| Brooklyn   | 734            | 118                          | 39                | 39                | 11            | 142                   |
| Queens     | 140            | 50                           | 5                 | 6                 | 10            | 60                    |
| Richmond   | 20             | 7                            |                   |                   | 21            | 4                     |

varied from 2.4 in families with an annual income of \$2,000 or more to 3.6 persons in those where annual income was from \$500 to \$999. The conclusion may be drawn that these families on the whole are relatively large families and that the earnings of the working members must be spread to include support for a number of persons.

*Pneumothorax Service*—During the period of this study the Department of Health did not operate pneumothorax clinics in the five boroughs of the city.

The Department of Hospitals rendered this service for the Boroughs of Brooklyn and Richmond. Therefore, Table 4, page 354, shows for the remaining three boroughs the income classification for patients admitted to pneumothorax clinics. The individuals reporting no wage-earners in family comprised 32.9 per cent of the sample studied. Borough classification of this group showed the following variations from 30 per cent in Manhattan to 31 in Queens and 39 per cent in the Bronx. For the total city 57 per cent

TABLE 3 DIAGNOSTIC CLINICS AVERAGE SIZE OF FAMILY ACCORDING TO INCOME CLASS, AND NUMBER OF PERSONS PER WAGE EARNER

| INCOME CLASS (Annual Basis) | AVERAGE NUMBER PERSONS PER FAMILY | NUMBER OF PERSONS PER WAGE EARNER | NUMBER OF FAMILIES | TOTAL PERSONS IN FAMILIES | TOTAL WAGE EARNERS IN FAMILIES |
|-----------------------------|-----------------------------------|-----------------------------------|--------------------|---------------------------|--------------------------------|
| FAMILIES WITH EARNERS       |                                   |                                   |                    |                           |                                |
| \$ 0-499                    | 3.1                               | 2.0                               | 270                | 828                       | 281                            |
| 500-999                     | 4.1                               | 3.6                               | 1,572              | 6,514                     | 1,805                          |
| 1,000-1,499                 | 4.5                               | 3.1                               | 1,037              | 4,683                     | 1,300                          |
| 1,500-1,999                 | 4.7                               | 3.1                               | 429                | 2,017                     | 648                            |
| 2,000 and over              | 5.3                               | 2.4                               | 225                | 1,195                     | 454                            |
| FAMILIES WITH NO EARNERS    |                                   |                                   |                    |                           |                                |
| Home Relief                 | 3.9                               |                                   | 1,549              | 6,118                     |                                |
| Charity Agencies            | 4.3                               |                                   | 257                | 1,111                     |                                |
| Family Assistance           | 2.3                               |                                   | 75                 | 169                       |                                |
| Living on Savings           | 2.6                               |                                   | 73                 | 189                       |                                |
| Institutions                |                                   |                                   | 42                 | 42                        |                                |

TABLE 4 PERSONS ATTENDING PNEUMOTHORAX CLINICS CLASSIFIED ACCORDING TO AMOUNT OF FAMILY INCOME FOR EACH BOROUGH OF NEW YORK CITY

| BOROUGH    | TOTAL FAMILIES            | INCOME BASED ON WAGE EARNERS |                   |                   |                       | \$2,000 and Over |
|------------|---------------------------|------------------------------|-------------------|-------------------|-----------------------|------------------|
|            |                           | Less Than \$500              | \$500-999         | \$1,000-1,499     | \$1,500-1,999         |                  |
| PERCENTAGE |                           |                              |                   |                   |                       |                  |
| Total—City | 100 0                     | 3 0                          | 21 1              | 23 0              | 12 8                  | 7 2              |
| Manhattan* | 100 0                     | 5 2                          | 28 8              | 21 6              | 9 3                   | 5 2              |
| Bronx      | 100 1                     | 1 5                          | 14 5              | 23 2              | 11 6                  | 10 1             |
| Queens     | 100 0                     | 2 0                          | 18 2              | 24 2              | 17 2                  | 7 1              |
| NUMBER     |                           |                              |                   |                   |                       |                  |
| Total—City | 265                       | 8                            | 56                | 61                | 34                    | 19               |
| Manhattan  | 97                        | 5                            | 28                | 21                | 9                     | 5                |
| Bronx      | 89                        | 1                            | 10                | 16                | 8                     | 7                |
| Queens     | 99                        | 2                            | 18                | 24                | 17                    | 7                |
| BOROUGH    | NO WAGE EARNERS IN FAMILY |                              |                   |                   | INCOME STATUS UNKNOWN |                  |
|            | Home Relief               | Charity Agencies             | Family Assistance | Living on Savings |                       |                  |
| PERCENTAGE |                           |                              |                   |                   |                       |                  |
| Total—City | 24 2                      | 3 4                          | 1 9               | 8                 | 2 6                   |                  |
| Manhattan* | 22 6                      | 5 2                          | 2 1               | 0                 | 0 0                   |                  |
| Bronx      | 36 2                      | 0 0                          | 1 5               | 1 5               | 0 0                   |                  |
| Queens     | 17 2                      | 4 0                          | 2 0               | 1 0               | 7 1                   |                  |
| NUMBER     |                           |                              |                   |                   |                       |                  |
| Total—City | 64                        | 9                            | 5                 | 2                 | 7                     |                  |
| Manhattan  | 22                        | 5                            | 2                 | 0                 | 0                     |                  |
| Bronx      | 25                        | 0                            | 1                 | 1                 | 0                     |                  |
| Queens     | 17                        | 4                            | 2                 | 1                 | 7                     |                  |

\* Excluding Central and Vanderbilt Clinics. The Central Pneumothorax Clinic was established later in 1936 and sufficient material was not available at the time of this study. For Vanderbilt Clinic see footnote Table 1.

reported no income, or an income under \$1,000 per year. Borough distribution of this group ranges 52 per cent for Queens, 55 for the Bronx, and 64 per cent for Manhattan. The total family income for persons attending the pneumothorax clinics is considerably higher than for those persons in attendance at the diagnostic clinics especially in the \$2,000 or more income group.

However, in this sample too, it is necessary to relate income with size of family. Table 5, below, shows the average size of family and number of persons per wage-earner for each income class, also the average size of families with no wage-earners.

## Discussion

The New York County Medical Society has for several years given consideration to eligibility of patients for dispensary care on the basis of income. Various recommendations have been made, the most recent was in 1936 when the preceding schedule was revised downward 10 per cent and was adopted as follows<sup>3</sup>:

| NUMBER OF INDIVIDUALS | ANNUAL INCOME |
|-----------------------|---------------|
| Single                | \$ 900 00     |
| Family of two         | 1,260 00      |
| Family of three       | 1,485 00      |
| Family of four        | 1,710 00      |
| Family of five        | 1,935 00      |

TABLE 5 PNEUMOTHORAX CLINICS AVERAGE SIZE OF FAMILY ACCORDING TO INCOME CLASS, AND NUMBER OF PERSONS PER WAGE EARNER

| INCOME CLASS (Annual Basis) | AVERAGE NUMBER PERSONS PER FAMILY | NUMBER OF PERSONS PER WAGE EARNER | NUMBER OF FAMILIES | TOTAL PERSONS IN FAMILIES | TOTAL WAGE EARNERS IN FAMILIES |
|-----------------------------|-----------------------------------|-----------------------------------|--------------------|---------------------------|--------------------------------|
| FAMILIES WITH EARNINGS      |                                   |                                   |                    |                           |                                |
| \$ 0-499                    | 2 9                               | 2 8                               | 8                  | 22                        | 8                              |
| 500-999                     | 3 2                               | 3 1                               | 56                 | 180                       | 59                             |
| 1,000-1,499                 | 5 0                               | 3 3                               | 61                 | 247                       | 75                             |
| 1,500-1,999                 | 4 7                               | 2 8                               | 34                 | 155                       | 55                             |
| 2,000 and over              | 5 0                               | 2 3                               | 19                 | 107                       | 47                             |
| FAMILIES WITH NO EARNINGS   |                                   |                                   |                    |                           |                                |
| Home Relief                 | 4 3                               |                                   | 64                 | 275                       |                                |
| Charity Agencies            | 4 2                               |                                   | 9                  | 38                        |                                |
| Family Assistance           | 2 6                               |                                   | 5                  | 13                        |                                |
| Living on Savings           | 2 5                               |                                   | 2                  | 5                         |                                |
| Institutions                |                                   |                                   | 7                  | 7                         |                                |

The total family income is to be considered where patients and children are working

\$250 to be added for each additional dependent

"Where the individual has had no medical attention during the year and it is estimated that the cost will be over \$25 00 with a local doctor—in other words where the ailment is not a serious or chronic one, the applicant is referred to a local physician. Where the needs of the patient are in the opinion of a physician indicative of expensive medical investigation, this economic standard may be waived at the option of the institution."

In the recent Hospital Survey of New York,<sup>4</sup> under Out-Patient Service, Mac Curdy recommended the adoption of the above schedule, he stated further "There is common consent among all who meet the problems of the outpatient applicant that stress should be laid primarily upon medical needs and their urgency and that the economic determination should be secondary

In consideration of the aforementioned economic standards for admission of patients to clinic care it becomes immediately apparent that tuberculosis is a problem somewhat apart from general medical service. It is a communicable disease characterized by its chronicity and debilitating effects. It usually strikes hardest among the adult population and therefore the wage-earning classes. The problem of tuberculosis in the family is much greater than the individual afflicted because the problem of contact supervision is a continuous one over a long period of time. Thus the need of x rays is multiplied by the number of contacts. The problem in families where pneumothorax care is needed is even greater because refills are needed on an average of once every two weeks. The fluoroscope must be available at the time of each refill and the x rays are more numerous than in the average diagnostic clinic case.

Thus while the total family income for persons attending our pneumothorax clinics is higher than in the diagnostic clinics, it is not sufficiently greater compared to the extra cost of treatment to

indicate any abuse of the service. Furthermore it will be noted that the size of the family in pneumothorax cases is proportionately higher than in diagnostic cases

It is the general feeling among workers in our clinics that the economic level of patients has always been comparable to the present. Patients able to pay for private care as a rule do not seek admissions to our clinics. It is a policy in our work to examine all persons coming to the clinic the first time. If they are found to be able to pay for private care they are urged to make such arrangements but noncompliance will not debar them. We also find that occasionally when patients attending our clinics have increased their income to a point that will permit private care they leave the clinic, and conversely when the economic pressure becomes greater they are likely to return. In many instances this change from the clinic to the practitioner does not work to the best interest of the patient, as the supervision including periodic x rays are not likely to be as frequent when the patient must pay standard fees.

The Chest Consultation Services operated by the Department of Health have, we believe, been a factor in keeping a certain number of cases away from the regular clinics. We make no financial investigation of these cases when referred by the physician. It has been agreed that he will request examination only for those who in his opinion are unable to pay standard consultation fees for chest diagnosis. Any abuse of this service by the practitioner will in the end be reflected in his own practice as well as that of his colleagues. While the prime function of these stations is diagnostic, we do on occasion re-examine and make recommendations for ambulant patients supervised by the practitioner.

### Conclusions

The income status of 5,963 individuals representing family units admitted to the tuberculosis clinics of the New York City Department of Health in 1936 has been analyzed.



In the diagnostic clinics 36 1 per cent reported no income and 69 per cent either had no income or less than \$1,000 per year. A relatively small proportion reported income of \$2,000 or more per annum.

In the pneumothorax clinic both the income and the size of the family were higher than the same units in the diagnostic clinics.

Considering the chronic nature of tuberculosis, the need for long-term supervision, and repeated x-rays for the case, as well as contacts, it is not believed that our clinics are being used by those able to pay standard fees.

The Consultation Service for practitioners operated by the Department helps to keep a large number of cases under private care. They are not clinic

cases and yet they are unable to pay for consultation service at existing fees in private practice. This clinic provides the specialistic service needed without cost. The patient can afford ordinary medical fees and, therefore, has a complete service under the private doctor.

. . .

The authors wish to acknowledge the assistance and suggestions of Miss Jean Downes of the Milbank Foundation in the handling of the material presented.

### Bibliography

- 1 Steinberg, Israel, and Barnard, Margaret W. *Amer Rev Tuberc.*, 36 No 5 (Nov) 1937
- 2 Pessar, Harry T., and Edwards, Herbert R. *N Y State J of Med*, 37 No 21 (Nov) 1937
- 3 *The New York Medical Week*, 15 No 32 (Aug 8), 1936
- 4 *The Hospital Survey of New York*. The United Hospital Fund of New York, 1937, Vol 2, p 400

### HEALTH IMPROVING? OF COURSE!

That, in essence, was the comment of Surgeon General Thomas Parran on our steadily rising national health figures, as expressed in his address at the meeting of the American Public Health Association in Kansas City a few weeks ago. He admitted that "in discussing public health in the United States it is tempting to dwell upon past accomplishments. It is pleasant to point with pride to the lowest general mortality on record, to a further decline in the tuberculosis death rate, now less than 50 per 100,000, to a continually lower infant mortality and a significant reduction in the mortality of women during childbirth, which is 15 per cent lower this year than last. Similar satisfaction could be taken in the low level of death rates from typhoid fever, diphtheria, and many other preventable diseases.

"Such rates, however," he added, "are based upon past records and compared with death rates of earlier days. If medical science were static, past records would be a useful yardstick. Medical science, however, is not static. Al-

most every year additions are made to scientific knowledge which make it possible for us to do more than previously was possible in the prevention of disease. Many tools for better health are being forged in our scientific laboratories.

"There is every reason why we should accomplish more now than in the past. Moreover, an awakening public sentiment and the increasing interest of doctors in disease prevention as well as cure, make it possible for us to do far more than has yet been done in putting medical science to work for all of the people. Sickness and death rates of previous years, therefore, are inadequate yardsticks for the present and are useless as goals for the future.

Public health is a dynamic science. The horizon of knowledge is being extended year by year. Our plans for its application should embrace not only the knowledge we now have but should forecast the inevitable accretions to knowledge which year by year will make it possible to prevent deaths now considered inevitable."

"You must be on a war diet."

"Why on a war diet?"

"Because all of your food goes to the front."

—*Medical Record*

The incidence of diphtheria is a direct reflection of the efficiency of the medical profession of any civilized community.—*Pittsburgh Medical Bulletin*

# RESTORATION OF MUSCLE BALANCE IN THE TREATMENT OF OBSTETRICAL PARALYSIS

J B L'EPISCOPO, M.D , BROOKLYN

**T**his contribution is a report on the progress of the restoration of muscle balance at the shoulder since the first publication on this subject in 1934

Although we would like to discuss obstetrical paralysis thoroughly, we cannot do so because of the limited time allotted to its discussion at this time. Therefore, we will only take up the so-called upper-arm type

In order to properly understand the treatment, a brief description of the pathologic anatomy seen in that type of case, I believe, is essential

First, let us consider the muscles about the shoulder. We have all noticed that there is an early tendency for certain muscles, adductors, and internal rotators of the shoulder to shorten or contract. These are essentially the subscapularis, the pectoralis major, teres major, and the latissimus dorsi. These produce an internal rotation of the humerus, causing the head of the humerus to lie posteriorly in the glenoid cavity and as the humerus grows, a torsion deformity of the entire bone tends to develop. As the humerus is maintained and grows in the internally rotated position, it also causes a change of direction of the muscle fibers of some of the muscles attached to that bone, particularly the deltoid, so that instead of the fibers of this muscle going straight downward and outward, they are directed downward and inward. Consequently, when this muscle contracts, instead of the arm going outward at right angles to the trunk, the muscle tends to bring the arm mostly forward and somewhat outward. This is especially evident in cases where the passive scapulohumeral motion is very good. Nevertheless the active abduction is very poor, because the deltoid fibers, being wrongly directed,

pull the arm forward instead of laterally. Because of the malposition at the shoulder, the glenoid, as well as the head and anatomic neck of the humerus, do not develop properly. The glenoid tends to be shallow. There is a torsion growth of the neck and head of the humerus, so that the head points posteriorly. This position, which is at first simply postural, and is easily corrected in the early stages, later becomes fixed.

We believe that all these changes are secondary to posture, although Scaglietti contends that the majority are due to a separation of the epiphysis during delivery. We are not convinced yet that his theory explains adequately these late changes that are found, particularly if we include deformities of the elbow and forearm, where there is often definite contracture of the biceps and pronator radii teres muscles, and, occasionally, the flexors of the wrist, especially the flexor carpi ulnaris, although the latter very rarely persists after the first or second year. Because of the constant pull of the internal rotators of the shoulder, the external rotators are stretched and further weakened.

It will be seen from this brief description of the pathologic anatomy that the extremity must be maintained in a position of deformity. The arm is held in internal rotation and slight abduction. Most men have hitherto described the arm as being adducted, but if we look carefully at the shoulder, we will see that it really is in slight abduction. We have all made this mistake because we have noticed the limited abduction and therefore have erroneously concluded that the arm must be adducted. The forearm is pronated and the elbow flexed. We feel that the abduction is due to partial poste-

*Read at the Annual Meeting of the Medical Society of the State of New York New York City  
May 10 1938*

rior dislocation of the shoulder, in spite of the contracted adductors. We have described the pathologic anatomy only briefly and grossly, we feel that the finer and more complete details are not yet known and that more study and research is necessary. We have never had the opportunity to study a case in the autopsy room. We feel that postmortem studies of this lesion will help us in determining the exact and minute details of the pathology.

## Treatment

This may be conveniently considered under two headings: the early or conservative treatment, and the late or surgical treatment. We are of the opinion that early treatment should be conservative, in spite of the reports of a number of authors who advise surgical repair of the brachial plexus within the first few months of life. Our experience has shown us that cases so treated have not been benefited sufficiently to warrant surgical intervention and that those cases that have shown improvement, to our mind, have not shown any better improvement than other cases treated conservatively. On the other hand, we have seen cases that were left with a completely flail, flaccid paralysis of the extremity following early surgical intervention, but we have never seen a case conservatively treated that was left with a completely flail arm.

It is our practice to place the arms of these infants, soon after birth, in abduction and external rotation. In the newborn this can very easily be accomplished by making a tightly fitting cap for the baby and pinning the sleeve of the shirt to this cap, on the side of the head. After a few months a molded plaster-of-Paris splint is applied in this position. Both these methods make it easy to move the child about, particularly in nursing, without disturbing the position of the arm. If contractures tend to occur after the first few months, daily manipulations are advised to stretch the contracting muscles. The mother can usually be easily

taught how to do this. We want to give a word of warning in the application of the abduction splint. The arm should be placed in about 70° of abduction from the trunk. Elevation of the shoulder should be avoided as we have seen subglenoid dislocations occur when the arm has been elevated for too long a period. This conservative treatment should be followed for a relatively long period, five or six years. Many children will have good, useful arms by that time with little or no deformity. However, if deformities should persist or tend to increase, then surgery is indicated.

If we admit that the deformities are due to a loss of muscle balance between antagonistic muscles, which we think is the case, our first concern should be to re-establish this muscle balance to approach the normal as much as possible. As mentioned above, the most imbalance is between the internal and external rotators of the shoulder, the internal rotators being contracted and apparently more powerful than the external rotators. This can be overcome by releasing the tight internal rotators, that is, the subscapularis, pectoralis major, the latissimus dorsi, and teres major, as advocated by Sever. This is a very satisfactory operation but in many cases it has only a temporary effect, as the deformity tends to recur. The same may be said for the osteotomy of the humerus as practiced mostly in Europe. These operations, of course, simply correct the deformity but make no attempt to restore muscle balance. By that we mean that no attempt is made to strengthen the weaker external rotators and to weaken the strong internal rotators.

For the past seven years we have been transplanting the teres major and latissimus dorsi muscles from the medial aspect of the humerus to the lateral aspect, thus changing the action of these muscles from internal rotators to external rotators, thus weakening the internal rotators as a group and strengthening the external rotators as a group. The reason we picked out these two muscles is that they lend themselves to transplantation more

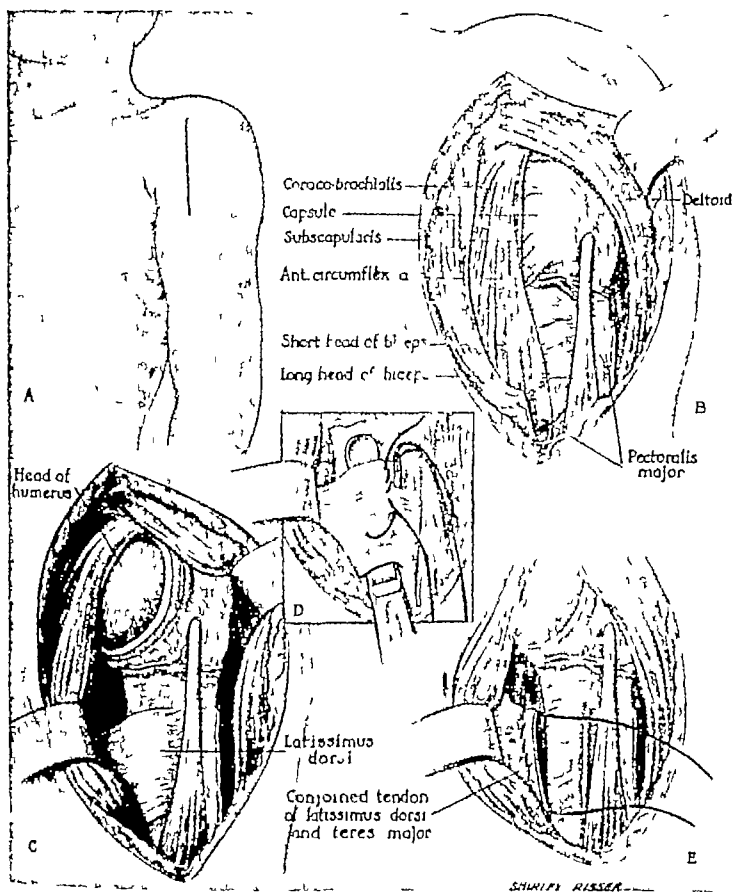


Figure 1 A Shows the anterior incision. B Shows the exposure of the deeper structures and the capsule of the shoulder with the pectoralis major tendon cut near its insertion. C Shows the latissimus dorsi tendon completely exposed and the subscapularis tendon re-

leased by cutting the capsule of the joint. D Shows the latissimus dorsi and teres major tendons being sutured before cutting. E Shows the latter two tendons cut and being held by sutures before they are transposed posteriorly.

easily than some of the other internal rotators.

Before doing any muscle transplantation, however, we must bear in mind

that no transplanted muscle will work efficiently in the presence of deformity which would mechanically interfere with its function at its new insertion. There

fore, we must correct any existing deformity by releasing the internal rotators, but instead of cutting the subscapularis according to the method of Sever, we cut the capsule of the joint according to the method of Fairbank, as this releases not only the subscapularis but also the contractures of the capsule. The pectoralis major is also cut. In the very late cases where there is torsion of the upper end of the humerus and the fibers of the deltoid are directed downward and medially, a circular osteotomy is done at the upper end of the humerus. This must be done above the insertion of the deltoid muscle so that as the lower fragment of the humerus is rotated outward, the fibers of the deltoid muscle are directed straight downward. The combination of these procedures not only corrects the deformities and restores muscle balance, but this muscle balance is maintained by the transplantation of the two internal rotator muscles.

The lower arm often requires correction of the flexion of the elbow and pronation of the forearm. The flexion of the elbow is not sufficiently troublesome, as a rule, to interfere very much with function, but the pronation is at times quite disabling. This we have corrected by doing a subperiosteal resection of the pronator quadratus muscle from the ulnar side of the wrist and a transplantation of the pronator radii teres muscle. As we all know, this muscle starts at the medial condyle of the humerus, and then goes downward and outward and wraps itself around the middle of the radius from without inward. The insertion of this muscle is completely stripped, taking some periosteum at the same time so that the tendon will be sufficiently long. Then the lower end of the muscle is wrapped around the radius, from within out and inserted at its original insertion on the back of the radius. In other words, the tendon is pulled out and then passed between the radius and ulna, after making an opening through the interosseous membrane close to the radius, so that the muscle insertion now wraps around the radius in the opposite direction to its

normal one, thus acting as a supinator instead of a pronator of the forearm.

### Technique of Operation

The operation as described originally has been somewhat modified and, we believe, simplified. Only the modifications will be described here.

We are using the same anterior and posterior skin incisions. The tendons of the latissimus dorsi and teres major muscles are now cut through the anterior incision, as close to their insertion as possible. They are ligatured, passed posteriorly by means of the ligature and sutured under a thin osteoperiosteal flap, just above or at the origin of the outer head of the triceps muscle, as in the original operation, except that no heavy bone flap with drill holes is made. The transplanted tendons seem to hold just as well as they did under the heavy bone flap.

Since 1931, we have performed this operation on 16 patients. Fifteen of these had obstetrical paralysis and 1 had a spastic hemiplegia. The latter case was done because he maintained the arm in extreme internal rotation, although this could be overcome passively. We felt that weakening the internal rotators and strengthening the external rotators might improve function. The result was not very satisfactory to us as far as functional improvement was concerned, but there was some cosmetic improvement in that the arm was not maintained in extreme internal rotation. The 15 cases of obstetrical paralysis have all been definitely improved functionally.

### Bibliography

- 1 Fairbank, H A T. *Lancet*, 184 No 8, 1,217-1,223 (1913)
- 2 L'Episcopo, J B. *Am. J of Surg*, 25 No 1 122-125 (July), 1934
- 3 Scaglietti, O. *La Chirurgia degli Organi di Movimento*, 22 (Aug.), 1930

### Discussion

Dr Leo Mayer, *New York City*—Dr L'Episcopo has presented a thoughtful paper which can be divided into three parts. The first deals with the pathological changes in birth paralysis. These are of the utmost importance since the more accurate our knowledge of pathology the more exact can be the indications for treatment.

The second part deals with the conservative

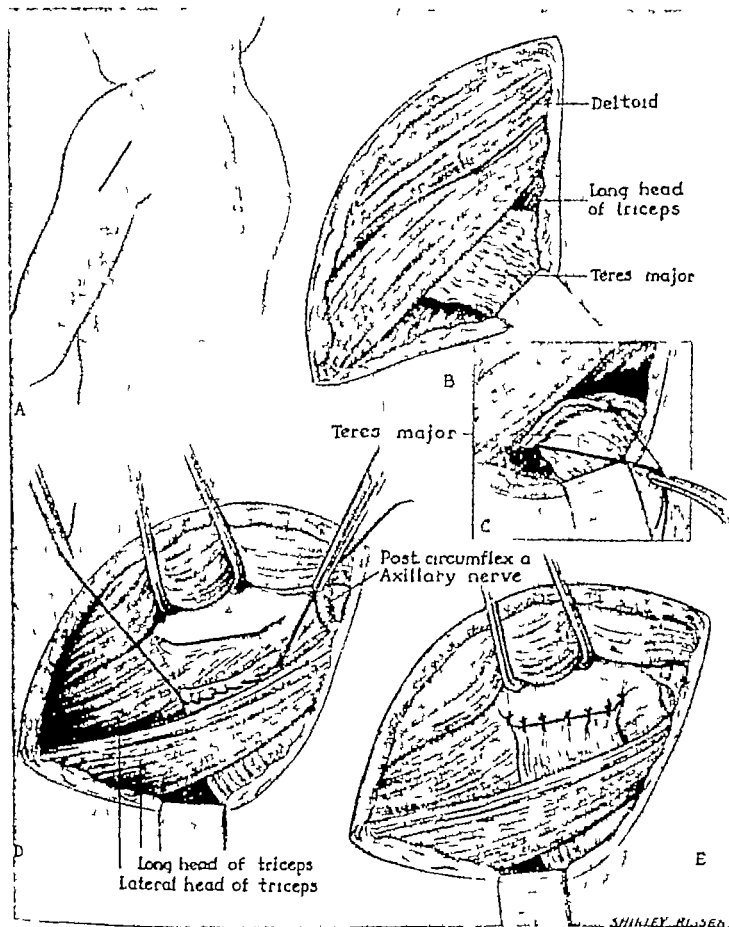


Figure 2 A Shows the posterior skin incision parallel to the posterior fibers of the deltoid muscle. B The deltoid and long head of the triceps muscles are shown exposed and the relaxed teres major muscle visible. The teres major and latissimus dorsi tendons pulled out of the posterior incision by means of ligatures.

D Teres major and latissimus dorsi being passed under the long head of the triceps and the deltoid retracted out of the way. The osteoperiosteal incision at the attachment of the lateral head of the triceps is shown before the transplanted muscles are sutured in place. E The transplanted muscles are shown sutured under the periosteal flap.

method of treatment. He calls attention to the abduction contracture which may develop as a result of the use of an abduction brace. My experience shows that this contracture may develop very early and that it is only by the early use of massage and manipulation that it can be avoided. Important though it is to overcome the internal rotation contracture, this should not be done at the expense of developing an equally undesirable abduction contracture. In many patients who are referred to me, an abduction splint has been left on for many months at a time. In these patients it is particularly difficult to overcome the abduction contracture and in some cases operative procedures have been necessary before a normal alignment between the shoulder and scapula can be established.

The third portion of the paper deals with the operative correction. Dr L'Episcopo has made an important contribution to this field. Although the release of the internal rotators has helped many patients, their transference to the posterior aspect of the humerus adds considerably to the strength of the external rotators. In the cases in which I have used this method, the results have been gratifying. To overcome pronation contracture I find the following procedure more effective than the Tubby operation which Dr L'Episcopo has mentioned. The tendons of the flexor carpi radialis and pronator radii teres are cut away from their insertion, freed as far upward as possible, fastened to one another by a few silk sutures and then brought over the ulnar side of the forearm in a spiral line downward and backward to the posterior surface of the radius just above the wrist. Here they are fastened to the bone through a drill-hole passing from behind forward.

May I also call attention to the excellent correction of severe internal rotation contracture by the stripping operation of Dr Kleinberg.

Dr J E Milgram, Brooklyn—Dr L'Episcopo's contribution to the surgery of the obstetrical internal rotation contracture at the shoulder is of major significance. Its very simplicity of plan and execution (transformation of deforming internal rotators into badly needed external rotators) was enough to earmark his first publication for all of us. I will, if I may, confine my discussion to the shoulder and the elbow of Erb's Palsy. I was much gratified to hear Dr L'Episcopo's remark that while most men have hitherto described the arm as being adducted—"it is really in slight abduction."

The abduction contracture of the shoulder is frequent (16 of 23 cases), real, severe, persistent, disabling, deforming, and what is most impor-

tant, as a rule unnecessary. There is an increasing number of cases in which the conservative treatment is overdone and an additional deformity has resulted. It is usually associated with a contracture of the backward extensors of the shoulder. The arm, at rest, hangs away from the side and even passively cannot be brought to the side without making the scapula poke out awkwardly. If the arm is brought forward in the horizontal plane, the scapula is dragged with it in unison so it comes to lie almost on top of the shoulder, again in awkward fashion.

In 1932, I stressed the recognition and causation of the abduction contracture and urged an operative plan which has since been performed on several patients at the Hospital for Joint Diseases, with moderate success. It consists essentially of elongation of the deltoid and the superior shoulder joint capsule. The first patient I operated lost some abduction as a consequence of overcorrection. The next two patients whom Dr Leo Mayer operated were less radically corrected and the end results were better. I had hoped that Dr Mayer would find time to relate attempts by operative methods to correct the abduction contracture. They are essential but have not been an unalloyed joy. The deformity is preventable and I would here stress prevention.

May I call your attention to the fact that the abduction contracture is really an orthopedic deformity resulting from overtreatment. In time the original abduction external rotation deformity changes to an abduction internal rotation deformity, as the brace is left off and the active internal rotators come into play. The shortened deltoid and upper shoulder capsule, however, maintain the abductor component.

We were all taught to keep the arm in the flagman's position until the nerves grow back, months and years, if necessary. In a newborn child with a traumatized shoulder, even three weeks of this position will result in a contracture easily recognizable, and difficult to undo.

I have, therefore, employed the following schedule.

- 1 The arm is supported, instead, in the military-salute position from birth, using a light wire padded splint (in 90° abduction, 45° forward flexion, 90° external rotation of the forearm).

- 2 After two weeks, the arm is left free for several short periods, to fall to the side.

- 3 As return occurs, the splint is more frequently left off during the day although the child sleeps with it at night.

4. Passively the shoulder is regularly brought through all ranges of passive motion after the third week. If the nurse or physiotherapist can recognize the abduction contracture, it will not be added to those unpreventable deformities for which Dr L'Episcopo's operation is of such value.

A word as to the elbow

1. Long routine brace fixation of the infant's elbow in flexion must be employed only with understanding and periodic stretching into extension. Otherwise permanent loss of terminal extension will develop regularly and persist almost indefinitely.

2. Limitation of elbow extension later occurs when the arm hangs in abduction and internal rotation. Gravity flexes the elbow and bone growth fixes and limits the ranges of terminal extension in time.

If active flexion is absent at the elbow and the biceps is gone, the Steindler flexor shift upward of the forearm flexors has proved of immediate value.

In a few cases a peculiar asynergia of the elbow flexor and extensor appears. In three such cases under my care, each patient has shown a weak biceps and a stronger triceps. When he tries to bring his hand to his mouth it becomes rigid at a variable degree of flexion.

the triceps contracting synchronously with the biceps and freezing the latter's effect so that the patient is unable to bring his hand to his mouth.

In one case after a preliminary test of anaesthetizing the triceps by novocaine, I performed a triceps tenotomy. Since then the patient has been able to voluntarily bring his hand to his mouth with ease.

Such disturbances of reciprocal innervation of opposing groups of muscles in Erb's Palsy probably exists frequently about the shoulder and makes one wonder whether avulsion of the roots from the spinal cord has not interfered with upper motor neurone control at local levels in the cord. I am not aware of cord studies which might settle this point.

As Dr L'Episcopo reminds us we have yet much to learn about the true pathology of apparently simple Erb's Palsy.

Lantern slides are presented of (1) an abduction contracture in a three weeks old infant (2) a persistent abduction contracture in a three year-old child (3) an abduction contracture in a three-month-old infant and the corrected contracture at the age of three years the result of almost two and one half years of continuous stretching indicating that prevention would have been easier than cure.

## BIG NICK IN GRIM REAPERS SICKLE

The first full year of organized battle against pneumonia in New York City under the auspices of the Health Department's pneumonia control bureau was concluded on December 31.

Exact figures on the bureau's accomplishments will not be available for some time, but estimates show that the use of serum to fight the 60 per cent of pneumonia cases for which serum can be used, has been doubled.

A rough estimate on the number of lives saved would indicate that somewhere between 700 and 1,000 persons with pneumonia who would have died in 1938 are now alive, thanks to serum and its increased use under the pneumonia bureau.

## LOOPHOLE BADLY IN NEED OF A STOPPER

By a strange anomaly a layman cannot prescribe for one patient but he can prescribe for a million. A leading New York City doctor held in his hand the other day the circular of a medical preparation put out by a manufacturer who made no claim to be a physician. The preparation had in it liver extract, ascorbic acid, vitamin B, copper citrate, oil of peppermint, ferrous sulfate and cottonseed oil. No chemist would fill that prescription if it were written by a layman, said the doctor, but a layman can put it up and prescribe it for thousands and millions of people he never saw! There is a legal loophole badly in need of a stopper.

"What did the doctor do for your absent mindedness?"

"He prescribed some pills."

"Did they help?"

"I forgot to take them."—*Rocky Mt Med J*

Freahman (preparing an essay) What do they call those tablets the Gauls used to write on?

Roommate Gaul stones.—*Kentucky Grocer*



# SULFANILAMIDE IN THE TREATMENT OF CHANCROID

BORRIS A. KORNBLITH, M D , ADOLPH JACOBY, M D , and  
MICHAEL WISHENGRAD, M D , New York City

*(From the Central Clinic, Bureau of Social Hygiene, Department of Health, City of New York)*

THE causative agent in chancroid is the Ducrey organism, a gram negative streptobacillus of moderate virulence. The very good results obtained by the use of sulfanilamide in the treatment of streptococcus infections suggested its trial in chancroid infections.\*

The results of the use of sulfanilamide in a series of 10 cases at the Central Clinic have been so consistently gratifying that they warrant this preliminary report. Among the 10 cases here reported, there were 9 men and 1 woman. The lesions ranged from one ulceration on the shaft of the penis to six ulcerations on the prepuce and a complete sloughing of the glans penis. The duration of the lesions varied from three weeks to fifteen months.

The criteria used for diagnosis were

- 1 A reasonably adequate lesion
- 2 A positive smear for Ducrey organisms
- 3 A positive Ducrey skin reaction
- 4 A negative dark field examination
- 5 A negative Wassermann reaction
- 6 A negative Frei test

Seven of the cases reported conformed to the above criteria. In 3 patients, in whom syphilis was also present, the luetic etiology of the local lesion was ruled out—one was a congenital luetic and the other two had been under antiluetic treatment for about one year, prior to the onset of the present disease. The last patient (Case No. 10) appeared at the clinic with an acute lesion and a three plus Wassermann on three different occasions. The dark field examination, however, was negative and the Ducrey smear was repeatedly positive.

Therapy also helps to differentiate chancroid from a luetic lesion. A primary luetic lesion does not respond to sulfanilamide and takes its natural course. This has been shown in experimental work done on rabbits,<sup>1</sup> and in our own experience, in one patient. This patient, a twenty-two-year-old negro, appeared with a flat 2 cm ulceration at the coronal sulcus. The Wassermann test, smear for Ducrey bacillus, and dark field examination were negative. Inasmuch as the lesion appeared clinically like a chancroid, sulfanilamide was given for five days. Despite this treatment the lesion, which had been present for six weeks, spread, became indurated, and was then diagnosed as a primary chancre due to syphilis. A dark field examination at this time showed numerous spirochete pallida. While sulfanilamide has no effect on luetic lesions, antiluetic therapy has no beneficial effect upon concomitant chancroidal lesions developing during the course of anti-syphilitic treatment. Thus, antiluetic medications and sulfanilamide may be given simultaneously. The last patient (Case No. 10) responded favorably to sulfanilamide.

An inguinal adenitis which was discrete and nonsuppurative was present in 6 of the 10 cases reported.

A smear for Ducrey bacilli was positive in all cases. Whereas it was possible to demonstrate the organisms consistently before treatment was begun, the organisms were not demonstrable after forty-eight hours of treatment with sulfanilamide. The Una Pappenheim stain, methylene green pyronine, was found most satisfactory. The organisms stand out as red streptobacilli arranged in streaks and parallel rows.

The material for skin testing<sup>2</sup> was obtained from Case No. 1, from a bubonulcus.

\* We are indebted to Dr. Gregory Schwartzman of the Mount Sinai Hospital for this suggestion which we followed through.

on the shaft of the penis. It was prepared in the same way as Frei antigen. This material gave positive results in chancroid cases and negative tests in cases of lymphogranuloma venereum or lues

Method of Treatment and Results

For the first five days, the patient was given 80 grains of the drug per day—20 grains after each meal and before bed time. From the sixth to the fifteenth day, inclusive, 40 grains per day were administered—10 grains after each meal and 10 grains before bedtime. After this period, treatment was stopped whether or not the lesion was healed. The entire treatment was ambulatory.

No untoward effects were noted in this group of cases. The patients were cautioned to stop the drug if a diarrhea developed, and in case of constipation not to use a saline cathartic. They were likewise instructed not to drink more than one quart of fluid during a twenty four-hour period. The only other treatment advised was the use of soap and water to cleanse the local lesion twice daily.

The average duration for treatment was fifteen days and an average amount of 690 grains of sulfanilamide was given. The average time for healing was about two weeks. The fact that there were no complications due to treatment, also the fact that all of the cases responded favorably, seems somewhat unusual. There will probably be cases with complications and resistance to treatment but up to the present we have not encountered them.

It is hoped that in the near future a larger group will be available for study and give us a broader base for more accurate evaluation of this therapy.

A table and brief description of these 10 cases follows

Case Reports

Case 1—J.M. 26 white, male, complained of small ulcerations on the shaft of his penis accompanied by enlarged inguinal glands in both groins, of five weeks duration. The ulcerations progressed and the glands became painful. Four weeks after the onset, he developed a soft

Ten Cases of Chancroid Treated with Sulfanilamide

| CASE | LESION             | INGUINAL ADE | DURATION OF LESION | SMEAR FOR DUCREY REAC | DARK FIELD | WASSER MANN | PREI | DURATION OF TREATMENT | AMOUNT OF DRUG USED | TIME OF HEALING | FOLLOW UP |
|------|--------------------|--------------|--------------------|-----------------------|------------|-------------|------|-----------------------|---------------------|-----------------|-----------|
| 1    | Ulcer Shaft        | +            | 42 days            | ++++                  | neg.       | neg.        | neg. | 12 days               | 680 gr              | 12 days         | 12 wks    |
| 2    | Ulcer Shaft        | +            | 60 days            | ++++                  | neg.       | neg.        | neg. | 12 days               | 900 gr              | 14 days         | 10 wks    |
| 3    | Coronal Ulcer      | 0            | 30 days            | ++++                  | neg.       | neg.        | neg. | 10 days               | 440 gr              | 10 days         | 4 wks     |
| 4    | 2 Ulcers, Prepuce  | 0            | 21 days            | ++++                  | neg.       | neg.        | neg. | 14 days               | 720 gr              | 14 days         | 6 wks     |
| 5    | 6 Ulcers, Prepuce  | 0            | 30 days            | ++++                  | neg.       | neg.        | neg. | 19 days               | 1020 gr             | 14 days         | 6 wks     |
| 6    | 1 Ulcer, Prepuce   | +            | 30 days            | ++++                  | neg.       | neg.        | neg. | 14 days               | 640 gr              | 14 days         | 2 wks     |
| 7    | Ulcer Glans        | +            | 450 days (16 mos.) | ++++                  | neg.       | +++         | ++   | 15 days               | 800 gr              | 30 days         | 6 wks     |
| 8    | 2 Ulcers, Prepuce  | 0            | 90 days            | not done              | neg.       | +++         | +    | 24 days               | 500 gr              | 21 days         | 4 wks     |
| 9    | 3 Ulcers, Prepuce  | +            | 30 days            | +                     | neg.       | +++         | neg. | 9 days                | 500 gr              | 9 days          | 4 wks     |
| 10   | Ulcer Labium Minus | +            | 21 days            | +                     | neg.       | +++         | neg. | 13 days               | 610 gr              | 11 days         | 0 wks     |

• Case 7 Under antiseptic treatment for fourteen months before sulfanilamide treatment was begun  
+ Case 8 Under antiseptic treatment for nine months before present lesion appeared  
+ Case 9 Case of congenital lues. Developed present lesion while under antiluetic therapy  
+ Case 10 Asymptomatic lues. Dark field negative—at time of admission.

Old case of lymphogranuloma venereum.

boggy swelling about the size of a hazel nut on the dorsum of the shaft of the penis. In addition, he developed three separate large ulcerations around the corona.

**Examination** A ragged ulceration was present under the prepuce, this measured 4 × 2 cm. There was a bilateral slightly tender inguinal adenopathy. The nodes were discrete, and there was no evidence of breaking down. A 2 cm bubonulus was present on the dorsum of the shaft of the penis. This was fluctuant. After three days observation this bubonulus was aspirated and 5 cc of pus obtained. The skin over the bubonulus broke down and left a ragged ulceration about 2 cm in diameter.

**Laboratory Findings** The Wassermann was negative, the Frei test was negative, smears from the ulceration for Ducrey bacilli were positive. The pus aspirated from the bubonulus was treated at 60 C for two hours on two successive days, (fractional inactivation, similar to the preparation of Frei material). This material was used for the skin testing. It proved to be a potent antigen, giving positive reactions in proved cases of chancroid disease and negative intradermal reactions in control cases (Luetics and lymphogranuloma cases). Dark field examinations were repeatedly negative.

**Treatment** For five days the patient was given two doses of 5 cc of 1 per cent potassium antimony tartrate. His lesion progressed unabated. At this point sulfanilamide was given, 80 grains for a period of four days and 40 grains for an additional period of nine days. The only other treatment given consisted in cleansing the local lesion with soap and water. The total duration of treatment with sulfanilamide was thirteen days, the total amount of sulfanilamide used was 680 grains or 40.8 grams. The patient made a rapid recovery, signs of recession were evident as early as forty-eight hours after sulfanilamide treatment was begun. All ulcerations healed completely. The swelling of the inguinal nodes receded.

**Follow-Up** The patient was seen again in January, 1938, three months after the onset. There was no evidence of any recurrence.

**Comment** The history and progress of this case are particularly noteworthy. The lesion including a bilateral adenopathy and the formation of a bubonulus on the shaft resembled lymphogranuloma more than anything else. The further course, however, established a correct diagnosis.

**Case 2**—G F, 24, Puerto Rican male, complained of ulcerations on the shaft of his penis of two months' duration.

**Examination** The patient had two separate

ulcerations on the dorsum of the shaft of his penis near the corona. These measured 2 cm and 1½ cm in diameter, respectively. He likewise had a bilateral moderate discrete inguinal adenopathy.

**Laboratory Findings** The Wassermann test was negative, the Frei test was negative, the Ducrey skin test was positive. Smears for Ducrey bacilli were positive. A dark field examination was negative.

**Treatment** The patient was given a total of 660 grains, or 57.6 grams of sulfanilamide in nineteen days. His ulcers had healed completely at the end of two weeks.

**Follow-Up** The patient was seen again at the end of one month, entirely well. There was no evidence of recurrence.

**Case 3**—H S, 27, negro male, had an ulceration on the corona of one month's duration.

**Examination** The patient had a single discrete ulceration on the right side of the corona measuring 1 cm in diameter. There was no evidence of inguinal adenopathy.

**Laboratory Findings** The Wassermann was negative, the Frei test was negative, the Ducrey skin reaction was positive. A dark field examination was negative.

**Treatment** The patient was given a total of 440 grains or 26.4 grams of sulfanilamide in ten days. At the end of ten days the lesion had healed completely.

**Case 4**—R W, 30, male negro, complained of ulcerations on his penis of three weeks' duration.

**Examination** A single flat 8 mm ulceration was present on the dorsum of the shaft of the penis. A left inguinal adenopathy was present.

**Laboratory Findings** The Wassermann was negative on two occasions in the interval of one month. The Frei test was negative, the dark field examination was negative, the Ducrey skin reaction was positive, and smear for Ducrey bacilli was positive.

**Treatment** The patient was given a total of 720 grains or 43.2 grams of sulfanilamide in fourteen days. At the end of two weeks the lesion had entirely healed.

For two weeks before the patient appeared at this clinic, he had received iodoform in ether for local application to his lesion. This produced no good effect.

**Follow-Up** The patient was seen two weeks later, no evidence of recurrence.

**Case 5**—J B, 22, colored male, complained of many small ulcerations on his penis.

**Examination** Six distinct ulcerations were found on the penis, three on the prepuce, each measuring 8 mm in diameter, 2 ulcerations were present on the glans penis near the urethra, these

measured 6 mm one large oval shaped undermined ulceration was present on the penis on the dorsal surface of the glans at the coronal sulcus. The inguinal glands were shotty in both groins.

**Laboratory Findings** The Wassermann was negative, the dark field examination was negative the Ducrey smears were positive, the Ducrey skin test was positive. The Frei test was negative.

**Treatment** The patient was given a total of 1,020 grains or 60.2 grams of sulfanilamide in nineteen days. At the end of two weeks, however the lesions had completely healed.

**Case 6**—J.M. 27 negro male had a sore on his penis of four weeks' duration.

**Examination** Two ulcerations were found on the prepuce 2 cm and 1 cm in diameter respectively.

**Laboratory Findings** The Wassermann was negative, dark field examination was negative smears for Ducrey bacilli were positive. Ducrey skin test was positive. The Frei test was negative.

**Treatment** The patient was given a total of 640 grains or 38.4 grams of sulfanilamide in fourteen days. At the end of this period both ulcerations had completely healed.

**Follow Up** The patient was seen three weeks later no evidence of recurrence.

**Case 7**—S.E. 39 negro male was admitted for antiluetic treatment on July 8 1936. At that time his Wassermann reaction was 4 plus. On June 1, 1936 he noticed a small pustule at the urethral opening. In spite of antiluetic treatment, this lesion enlarged and covered at least one third of the glans penis. In July one month after the onset he developed a marked paraphimosis.

**Examination** After three months' observation the urethra beginning at the meatus and extending 1 cm proximally was entirely eroded the glans penis itself was practically entirely sloughed. A deep ragged ulceration replaced the tip of his penis. This was surrounded by a hard indurated edge and surmounted by a very tense paraphimosis. The lesion resembled a carcinoma of the glans penis.

**Laboratory Findings** The Wassermann in July 1936 was 4 plus. A smear for Ducrey bacilli was positive the Frei test was positive. A dark field examination was negative.

**Treatment** The patient was given intensive antiluetic therapy between July 1936 and September 1937. This had no effect upon his local lesion. In view of his positive Frei reaction in intravenous injections of Frei antigen were given for a period of eight months. This produced no improvement. A course of tartar emetic was

given likewise six injections of fuadin produced no improvement. In September 1937 fourteen months after his original admission the local lesion had receded somewhat but refused to heal in spite of all the treatments given above. Smears for Ducrey organisms were persistently positive. At this point it was decided to use sulfanilamide. The patient was given 80 grains a day for five days and 40 grains a day for ten succeeding days. The patient took a total of 800 grains in fifteen days. In the course of thirty nine days after the beginning of this treatment the patient's lesion healed completely. His glans penis although much smaller and deformed showed a pale white epithelium which was firm and clean and showed no tendency to breaking down.

**Follow Up** The patient was followed for three months after healing took place, there was no evidence of recurrence.

**Case 8**—E.G. 26, colored male had ulcerations on the frenum of three months' duration.

**Examination** The patient showed two ulcerations each 2 cm in diameter one on the dorsum of the penis and the other at the frenum.

**Laboratory Findings** The Wassermann was 4 plus the patient had been under antiluetic treatment since January 1936. The Frei test was negative the smears for Ducrey bacilli were positive. A dark field examination was negative.

**Treatment** The patient was given a total of 800 grains or 48 grams of sulfanilamide in thirty four days. The ulceration healed completely at the end of three weeks.

**Follow up** The patient was seen one month after treatment without evidence of recurrence.

**Case 9**—H.J. 31 male negro who was under treatment for congenital syphilis complained of ulceration on his genitalia and large inguinal glands of one month's duration.

**Examination** Three small flat 5 mm ulcerations were present on the prepuce in addition to a right inguinal adenopathy.

**Laboratory Findings** The Wassermann reaction was 4 plus a dark field examination was negative the smears for Ducrey bacilli positive the Ducrey skin test was positive the Frei test was negative.

**Treatment** The patient was given a total of 560 grains or 33.6 grams of sulfanilamide in nine days. At the end of this time all the lesions were healed completely and the inguinal adenopathy had receded.

**Follow Up** The patient was seen two weeks later no evidence of recurrence.

**Case 10**—A.B. 37 negroes complained of a painful ulceration on her genitalia of three weeks' duration.

**Examination** A punched out irregular 3 cm ulceration was present on the right labium minus at a distance of 1 cm from the external urethral meatus. Shotty inguinal nodes were present in the right groin.

**Laboratory Findings** The Wassermann reaction was 3 plus, a dark field examination was negative repeatedly, smears for Ducrey bacilli were positive, the Ducrey skin reaction was positive, the Frei test was negative.

**Treatment** The patient was given a total of 640 grains, or 38.4 grams of sulfanilamide in thirteen days. At the end of eleven days the lesion had completely healed.

**Follow-Up** The patient was seen two months later, there was no evidence of recurrence. Antiluetic therapy was begun after sulfanilamide was given.

### Summary and Conclusions

1 Ten cases of chancroid infections treated by sulfanilamide are presented.

2 All of these cases responded favorably to this method of treatment.

3 All cases healed after an average of fifteen days' treatment with the administration of 800 grains of sulfanilamide in divided doses.

4 Sulfanilamide therapy may possibly

be used as a means of differential diagnosis of genital lesions.

5 Since this series is small, further study is necessary with larger groups of cases to determine the presence of resistant cases and for confirmation of our present findings.

### Addendum

Since this report was submitted for publication, 65 proved cases of chancroid have been followed. The results have been uniformly excellent. There has been no failure or recurrence. All of the cases were healed after two weeks of treatment with sulfanilamide alone.

The first 24 cases were discussed (case presentation) before the Section of Dermatology and Syphilis at the New York Academy of Medicine in March, 1937. At that time the literature contained no previous reports of similar findings.<sup>3</sup>

### References

- 1 Campbell, A. D. *Amer J of Syph.*, 21: 524 (Sept.), 1937.
- 2 Dulaney, Anna Doan. *Amer J of Syph.*, 21: 667 (Nov.), 1937.
- 3 Kornblith, Boris, A. and Chargin, L., *Arch Dermat. and Syph.* 38: 476 (1938).

### LECTURES ON OBSTETRICS

A series of lectures on practical obstetrics will be given at the Academy on Wednesday afternoons at 4:30 o'clock, under the joint sponsorship of the New York Academy of Medicine and the Medical Society of the County of New York.

March 1 The use of analgesics in labor  
Thaddeus L. Montgomery, Philadelphia

March 8 Syphilis in pregnancy  
Joseph N. Nathanson

March 15 Principles of hormone diagnosis and theories of endocrine therapy in pregnancy  
Howard C. Taylor, Jr.

March 22 Management of pregnancy complicated by

- (a) Tuberculosis  
J. Burns Amberson, Jr.
- (b) Heart disease  
Edwin P. Maynard, Jr.

March 29 Recognition and management of abnormal presentations  
Albert H. Aldridge

April 5 Sulfanilamide and other therapy in the treatment of postabortal sepsis, postpartum sepsis, and pyelitis  
Edward G. Waters, Jersey City

Doctor "When do you sweat mostly?"

Patient "When I have to pay a note."

—*Medical Record*

Scotsman (to office nurse) "Does the Doctor have anyone who needs a transfusion? My nose is bleeding."—*Medical Record*

## A CASE OF A COMMON DUCT STONE IN AN EARLY TYPHOID CARRIER

HARRY DAN VICKERS, M D , Little Falls, New York

THERE have been reported many cholecystectomies performed for the cure of the typhoid carrier state. The procedure is recognized and accepted not only in the treatment of the carrier state, but also as a public health practice in the prevention of the spread of typhoid fever. The gallbladder presents the typhoid bacilli with an excellent culture medium under conditions of poor drainage and stagnation from which the bacilli are fed continually into the intestinal tract. Poor drainage and stagnation result when the gallbladder becomes inflamed, as it does in a considerable percentage of typhoid fever cases. Furthermore, the presence of stones, porous in nature, offers a perfect haven for the bacilli, and further interferes with drainage. Thus, cholecystectomy removes a stagnant pool of culture media from which typhoid bacilli are fed into the intestinal tract.

The following is the report of a case whose gallbladder had been removed prior to an attack of typhoid fever, but who nevertheless became a typhoid carrier. This was most puzzling until she came down with the classical signs and symptoms of a common duct stone. It was reasoned that there was an obstruction of the biliary tree by one or more calculi which was reproducing the stagnant conditions of the carrier gallbladder in the bile ducts, and had made easy the development of the carrier state. In this instance there was no focus on infection to remove, but it was assumed that if free drainage of the obstructed ducts could be effected the bacilli would soon be washed out of the biliary tree and a cure would result.

The patient, M S, age 49, entered the Little Falls Hospital December 23, 1935, with a fever of undetermined origin. The history was that she had gradually developed fever a week previous. She

had chills, sweats, anorexia, headache, constipation, and frequent epistaxis, a combination of symptoms very suggestive of typhoid. She became weaker and was hospitalized by her local physician. Her past history was of interest in that she had had a cholecystectomy in 1925. At that time she had had right upper quadrant pain which radiated to the shoulder, indigestion, aversion to fats, belching, and constipation. She had not been jaundiced. Postoperatively, however, she was jaundiced for six days, but made a complete recovery. She remained in good health until 1933 when she had an attack similar to the above, except that she had chills fever, and sweats, and had to have hypodermics for the pain. She has had several milder attacks since.

Physical examination on admission was negative for any remarkable findings. The patient was of the short plump type. There was no rash, or palpable spleen. There was a healed right upper rectus scar, but there was no tenderness in its vicinity. A diagnosis of typhoid fever was made by agglutination tests and isolation of the typhoid bacillus by blood cultures. Treatment was symptomatic and supportive. The disease as measured by the fever continued for about three weeks. The temperature continued at about 100 F for another week, then spiked between 99 F and 103 F for a week. For the next four weeks she ran a low grade fever, but her general health was good. During this time the stools were positive for typhoid organisms.

On February 20, the patient became acutely ill with what appeared to be a common duct obstruction. She had right upper quadrant pain of a stabbing nature which radiated to the back, chills a temperature of 103 F, and sweats. There developed a deepening icterus

The attack subsided in a week, though there remained a varying amount of residual pain. At this time her urinalysis was normal, rbc 4,300,000, wbc 7,000, hemoglobin 63 per cent, differential, polys 62 per cent, monocytes 37 per cent, basophiles 1 per cent. Icteric index 35. Van den Bergh—delayed direct over four minutes, indirect 3 mgm per 100 cc. A flat abdominal plate was negative for calculi. Duodenal drainages were done on two successive days and the specimens cultured for typhoid bacilli. Both were positive. A gastric specimen was negative. Stool cultures were still positive.

The presence of typhoid bacilli in the upper intestinal tract as indicated by the positive duodenal drainage specimens seemed to indicate that the bacilli were being harbored in the biliary tree. Since it was established that the patient had a common duct stone which was interfering with the free drainage of bile from the hepatic ducts, it was assumed that this condition was the cause of the patient being an early typhoid carrier. This would be an especially strong assumption if the bacilli disappeared after surgical drainage of the biliary tract.

At operation on March 8, a 3.5 cm gallbladder stump was found to remain. Two small stones were embedded in its fibrous wall. A considerably dilated thickened common duct was explored, and a round calculus, 1 cm in diameter, was removed from the region of the ampulla of Vater. A No. 18 F catheter was sutured in the distal portion of the duct and the abdomen closed. Recovery was uneventful, the tube being removed on the eighth postoperative day. Cultures of the gallbladder wall were positive for B

typhosus, as were a cystic duct node, a specimen of common duct bile, and the unsterilized common duct stone. The sterilized stones from the gallbladder stump were negative.

Cultures were taken almost every day of the bile escaping from the tube, and later from the sinus until it healed, April 3. Stool cultures were taken at intervals, and finally of bile obtained by duodenal drainage. The cultures of the bile from the wound were constantly positive, there being 18 in all. There were 11 positive stool cultures before the first negative on April 10, thirty-three days after the operation. There were then four negative stool cultures, but on April 27 there was one positive. Following this positive culture the stools were consistently negative, there being fifteen in number. Four duodenal drainage cultures in the early part of May were negative. Cultures of the urine were also negative. On her discharge from the hospital May 16, the patient had almost regained her former weight, and had no symptoms referable to her digestive or biliary systems. She was considered cured of being a typhoid carrier.

About one month later the patient developed a painful subcutaneous swelling beneath her left breast. She was admitted to the hospital, and the abscess opened and drained. A culture of the pus was positive for B typhosus. Her stools at that time were negative. The infection on the chest wall was very stubborn and drained for about six weeks. It eventually healed solidly and there has been no recurrence in over eighteen months.

25 Jackson Street

---

#### WELL, MAKE UP YOUR MIND

A picture of a child playing in the snow appears in *Hygeia* with the caption "Exposure to cold is one of the several factors that are associated with the cause of acute rheumatic fever in young children," while *Neighborhood Health*, published

by the New York City Health Department, carries a picture of three children playing in the snow, with the title "Healthful outdoor play helps build bodily resistance." Further advice is anxiously awaited.

# MEDICAL MOTION PICTURES AVAILABLE FOR LOAN

AMERICAN MEDICAL ASSOCIATION

**M**OTION pictures on various scientific subjects are available on a loan basis. The material falls into two groups:

1. Pictures for medical societies and other scientific organizations,

2. Pictures for the public.

Requests for films should be instituted as far in advance as possible, so that the proper reservations can be made. The exact shipping addresses and dates should be given at the time of the request, also the type of apparatus in which the film is to be run. Responsibility for the projection and care of the film must be borne by the individual or organization which is borrowing it. The American Medical Association does not have projectors available for loan.

The only expense incurred is that of transportation both ways. However, careless handling resulting in serious damage may be charged to the borrower.

A brief description of each film is given in the following list. Notation is made as to the size of the film—16 mm or 35 mm, and silent or sound.

Apply to: Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

## Motion Pictures for Medical Societies and Other Scientific Organizations

*Syphilis (A Motion Picture Clinic)*—Sound. 35 mm, 9 reels, also 16 mm, 2 large reels, 1,600 ft. each. Running time about 1½ hours.

The diagnosis and treatment of syphilis presented by Dr John H Stokes, diagnosis of early syphilis, Dr Harold N Cole, treatment of syphilis, Dr Paul A O'Leary, latent syphilis, Dr James R. McCord, treatment of syphilis in pregnancy, Dr Philip C Jeans, congenital syphilis, Dr Joseph Earle Moore, late manifestations and neurosyphilis. Short talks also given by Dr Chas Gordon Heyd, Dr Morris Fishbein, Dr Thomas

Parran, and Dr R. A. Vonderlehr. (Script is available in a 40-page pamphlet, the price is ten cents.)

Audience: medical.

*Cancer (Canti Cancer Film)*—Silent. 35 mm, 3 reels. Running time about 45 minutes.

A film demonstrating the proliferation of cell tissue and the formation of cancers.

Audience: medical.

*Blood Circulation (Harvey Blood Film)*—Silent. 35 mm, 3 reels. Running time about 45 minutes.

Audience: medical.

*Blood Transfusion*—Silent. 16 mm, 1 large reel, 1,200 ft. Running time about 45 minutes.

Three methods of blood transfusion illustrated in detail.

Audience: medical.

*Comparative Physiology of Labor*—Silent. 16 mm, 4 reels, total about 1,400 feet. Running time about 1 hour.

Demonstration of normal labor in the human, the horse, the cow, the sheep, the dog, the pig, and the rabbit.

Audience: medical.

*Effects of Heat and Cold on the Circulation of the Blood*—Silent. 16 mm, 1 reel, 300 feet. Running time 12 minutes.

Demonstration of the effect of heat and cold on circulation as seen through a glass chamber installed in a rabbit's ear.

Audience: medical.

*Effects of Massage on Circulation of Blood*—Silent. 16 mm, 1 reel, 200 feet. Running time 8 minutes.

Demonstration of the effect of massage on circulation as seen through a glass chamber installed in a rabbit's ear.

Audience: medical.



*Contraction of Arteries and Arteriovenous Anastomoses*—Silent. 16 mm, 1 reel, 250 feet Running time 10 minutes

This film visualizes the contraction of arteries and arteriovenous anastomoses as seen through a glass chamber installed in a rabbit's ear

Audience medical

*Therapeutic Exercises for the Shoulder Joint Following Dislocation*—Silent 16 mm, 1 reel, 250 feet Running time 10 minutes

Audience medical

*Treatment of Compression Fracture of the First Lumbar Vertebrae*—Silent 16 mm, 1 reel, 300 feet Running time about 12 minutes

Audience medical

*Aids in Muscle Training*—Silent. 16 mm, 1 reel, 300 feet Running time about 12 minutes

Demonstration of sling suspension exercises for the upper and lower extremities, graded exercises on a powdered board for the lower extremities, and three kinds of "walkers" for re-education exercises

Audience medical

*Underwater Therapy*—Silent 16 mm, 1 reel, 400 feet Running time about 16 minutes

Presentation of therapeutic use of large and small exercise pools, Hubbard tanks, and homemade tanks, and demonstration of types of exercises given in cases

such as infantile paralysis, cerebral palsy, and postoperative congenital dislocation of the hip

Audience medical

*Occupational Therapy*—Silent 16 mm, 1 reel, 300 feet Running time 12 minutes

This film demonstrates occupations to motivate and control the desired physical or mental activity and assist in adjustment to long hospitalization. A section on cerebral palsy is included picturing indirect muscle training

Audience medical

*Massage*—Silent 16 mm, 1 reel, 100 feet Running time 4 minutes

Audience medical

### Motion Pictures for the Public

*A New Day*—Sound 16 mm, 1 reel, 400 feet Running time about 12 minutes

A dramatized film on the prevention and treatment of pneumonia.

Audience public

*Prevention of Burns*—Silent. 16 mm, 1/2 reel Running time about 7 minutes

Audience public.

*Men of Medicine*—Sound 16 mm, 1 reel, 800 feet. Running time about 30 minutes

"The March of Time"—produced by the Editors of Time and Life Released by RKO Radio Pictures

Audience public

"Sir, do you realize to whom you are speaking? I am the daughter of an English peer"

"So what? I'm the son of an American doc"  
—*Rocky Mt Med J*

Complaining Patient "This liniment makes my arm smart."

Fed-Up Doctor "Rub some of it on your head!"—*Rocky Mt Med J*

Doctor (commenting on lawyer who has just concluded his speech to the jury) "If he had his conscience taken out it would be a minor operation"—*Rocky Mt Med J*

The 68th Annual Meeting of the American Public Health Association will be held in Pittsburgh, Pa., October 17-20, 1939, with headquarters at the William Penn Hotel

# THE PHYSICIAN'S INCOME TAX—1939

Prepared by the BUREAU OF LEGAL MEDICINE AND LEGISLATION

**T**HIS discussion relates only to the requirements of the federal income tax law. Information with respect to the requirements of state income tax laws should be obtained from responsible state sources.

The Revenue Act of 1938 amended in numerous respects the prior income tax law, but none of the changes made relate to physicians as a class distinct from the main body of federal income taxpayers.

Every one who is required to make a federal income tax return must do so on or before March 15, unless an extension of time for filing his return has been granted. For cause shown, the collector of internal revenue for the district in which the taxpayer files his return may grant such an extension, on application filed with him by the taxpayer. This application must state fully the causes for the delay. Failure to make a return may subject the taxpayer to a penalty of 25 per cent of the amount of the tax due.

The normal rate of tax on residents of the United States and on all citizens of the United States regardless of their places of residence is 4 per cent on net income in excess of the exemptions and credits.

## Who Must File Returns

1 If gross income was less than \$5,000 during 1938, a return must be filed (a) by every unmarried person, and by every married person not living with her husband or his wife, whose net income was \$1,000 or more, and (b) by every married person living with her husband or his wife, whose net income was \$2,500 or more. If the aggregate net income of husband and wife, living together, was \$2,500 or more, each may make a return or the two may unite in a joint return.

2 Returns must be filed by every person whose gross income in 1938 was \$5,000 or more, regardless of the amount

of his net income and of his marital status. If the aggregate gross income of husband and wife, living together, was \$5,000 or more, they must file either a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

If the status of a taxpayer, so far as it affects the personal exemption or credit for dependents, changed during the year the personal exemption and credit must be apportioned, under rules and regulations prescribed by the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury, in accordance with the number of months before and after such change. For the purpose of such apportionment a fractional part of a month should be disregarded unless it amounts to more than half a month, in which case it is to be considered as a month.

As a matter of courtesy only, blanks for returns are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank does not excuse any one from making a return; the taxpayer should obtain the necessary blank from the local collector of internal revenue.

The following discussion covers only matters relating specifically to physicians. Full information concerning questions of general interest may be obtained from the official return blank and from the collectors of internal revenue.

## Gross and Net Incomes What They Are

*Gross Income*—A physician's gross income is the total amount of money received by him during the year for professional services, regardless of the time when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation and as compensa-

tion and profits from other sources

*Net Income*—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year as stated before. These matters are fully covered in the instructions on the tax return blanks.

*Earned Income*—In computing the normal tax, but not the surtax, there may be subtracted from net income from all sources an amount equal to 10 per cent of the earned net income, except that the amount so subtracted shall in no case exceed 10 per cent of the net income from all sources. Earned income means professional fees, salaries and wages received as compensation for personal services, as distinguished from receipts from other sources.

The first \$3,000 of a physician's net income from all sources may be regarded under the law as earned net income, whether it was or was not in fact earned within the meaning set forth in the preceding paragraph. Net income in excess of \$3,000 may not be claimed as earned unless it in fact comes within that category. No physician may claim as earned net income any income in excess of \$14,000.

### Deductions for Professional Expenses

A physician is entitled to deduct all current expenses necessary in carrying on his practice. The taxpayer should make no claim for the deduction of expenses unless he is prepared to prove the expenditure by competent evidence. So far as practicable, accurate itemized records should be kept of expenses and substantiating evidence should be carefully preserved. The following statement shows what such deductible expenses are and how they are to be computed.

*Office Rent*—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or

apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent of such house or apartment as professional expense, to entitle him to such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

*Office Maintenance*—Expenditures for office maintenance, as for heating, lighting, telephone service, and the services of attendants are deductible.

*Supplies*—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using, for instance, dressings, clinical thermometers, drugs, and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture, and professional instruments and equipment, "the useful life of which is short," generally less than one year, may be deducted, but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

*Equipment*—Equipment comprises property of a more or less permanent nature. It may ultimately wear out, deteriorate, or become obsolete, but it is not in the ordinary sense of the word "consumed in the using."

The cost of equipment, such as is described above, for professional use, cannot be deducted as expense in the year acquired. Examples of this class of property are automobiles, office furniture, medical, surgical, and laboratory equipment of more or less permanent nature, and instruments and appliances constituting a part of the physician's professional outfit, to be used over a considerable period of time, generally over one year. Books of more or less permanent nature are regarded as equipment and the

purchase price is therefore not deductible.

Although the cost of such equipment is not deductible in the year acquired, nevertheless it may be recovered through depreciation reductions taken year by year over its useful life, as described below.

No hard and fast rule can be laid down as to what part of the cost of equipment is deductible each year as depreciation. The amount depends to some extent on the nature of the property and on the extent and character of its use. The length of its useful life should be the primary consideration. The most that can be done is to suggest certain average or normal rates of depreciation for each of several classes of articles and to leave to the taxpayer the modification of the suggested rates as the circumstances of his particular case may dictate. As fair, normal, or average rates of depreciation the following have been suggested: automobiles, 25 per cent a year, ordinary medical libraries, x ray equipment, physical therapy equipment, electrical sterilizers, surgical instruments, and diagnostic apparatus, 10 per cent a year, office furniture, 5 per cent a year.

The principle governing the determination of all rates of depreciation is that the total amount claimed by the taxpayer as depreciation during the life of the article, plus the salvage value of the article at the end of its useful life, shall not be greater than its purchase price or, if purchased before March, 1913, either its fair market value as of that date or its original cost, whichever may be greater. The physician must in good faith use his best judgment and claim only such allowance for depreciation as the facts justify. The estimate of useful life, on which the rate of depreciation is based, should be carefully considered in his individual case.

In a Treasury Decision, approved February 28, 1934, No. 4422, it is held, among other things, that

1. The cost to be recovered shall be charged off over the useful life of the property,

2. The reasonableness of any claim for depreciation shall be determined on the

conditions known to exist at the end of the period for which the return was made,

3. Where the cost or other basis of the property has been recovered through depreciation or other allowances, no further deduction for depreciation shall be allowed,

4. The burden of proof will rest on the taxpayer to sustain the deduction claimed,

5. The deduction for depreciation in respect to any depreciable property for any taxable year shall be limited to such ratable amount as may reasonably be considered necessary to recover during the remaining life of the property the unrecovered cost or other basis.

Particular attention is called to the last of the foregoing provisions. If, in prior years, rates have been claimed which, if continued, will fully depreciate the cost, less salvage, before the end of its useful life, based on conditions now known, a re-estimate of the remaining useful life should now be made and the portion of the cost that had not been depreciated at the beginning of the year 1938 (for a return for the year 1938) should be spread over this re-estimated life.

*Medical Dues*—Dues paid to societies of a strictly professional character are deductible. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

*Postgraduate Study*—The Commissioner of Internal Revenue holds that the expense of postgraduate study is not deductible.

*Traveling Expenses*—Traveling expenses, including amounts paid for transportation, meals, and lodging, necessarily incurred in professional visits to patients, and in attending medical meetings for a professional purpose, are deductible.

*Automobiles*—Payment for an automobile is a payment for permanent equipment and is not deductible. The cost of operation and repair, and loss through depreciation, are deductible. The cost of operation and repair includes the cost of gasoline, oil, tires, insurance, repairs,

garage rental (when the garage is not owned by the physician), chauffeurs' wages, and the like

Deductible loss through depreciation of an automobile is the actual diminution in value resulting from obsolescence and use and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession of the present taxpayer.

If an automobile is used for professional and also for personal purposes—as when used by the physician partly for recreation, or so used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses, he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood.

What has been said in respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

### Miscellaneous

*Contributions to Charitable Organizations*—For detailed information with respect to the deductibility of charitable contributions generally, physicians should consult the official return blank or obtain information from the collectors of internal revenue or from other reliable sources. A physician may not, however, deduct as a charitable contribution the value of services rendered an organization operated for charitable purposes.

*Social Security Taxes*—The excise taxes imposed on employers by section 804, title VIII, and section 901, title IX, of the Social Security Act, commonly referred to as old age and unemployment benefit taxes, are deductible annually by employers in computing net income for federal income tax purposes. If the taxpayer's return is made on a cash basis, as

are the returns of practically all physicians, the taxes are deductible for the year in which they are actually paid. If the return is made on an accrual basis, the taxes are deductible for the year in which they accrue, irrespective of when they are actually paid. Employees, including physicians whose employment brings them within that category, may not deduct the tax imposed on them by section 801, title VIII, of the Social Security Act, generally referred to as the old age benefits tax. If, however, the employer assumes payment of the employee's tax and does not withhold the amount of the tax from the employee's wages, the amount of the tax so assumed may be deducted by the employer, not as a tax paid, but as an ordinary business expense.

*Laboratory Expenses*—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

*Losses by Fire or Other Causes*—Loss of and damage to a physician's equipment by fire, theft, or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent to which it has not been made good by repair and the cost of repair claimed as a deduction.

*Insurance Premiums*—Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any auto-

mobile belonging to the physician and used for strictly professional purposes

*Expense in Defending Malpractice Suits*—Expense incurred in the defense of a suit for malpractice is deductible as a business expense.

*Sale of Spectacles*—Oculists who furnish

spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.—*J.A.M.A.* Jan 14, 1939

## ANNUAL MEETING

1939

On April 24, 25, 26, and 27, 1939, there will be held the 123rd Annual Meeting of the Medical Society of the State of New York. Both the Hotel Syracuse and the Hotel Onondaga will house the various assemblies, the general sessions, and the sections, also scientific and technical exhibits.

The House of Delegates will convene on Monday morning, April 24, in the Hotel Syracuse.

The meeting will last the full four days with the general session on Tuesday afternoon and Thursday afternoon. One half of the sections will hold a morning meeting on Tuesday and an afternoon meeting on Wednesday. The other sections will meet Wednesday and Thursday mornings.

## WHAT A LITTLE CARE CAN DO

Eleven thousand fewer people were killed in accidents of all kinds in the United States during 1938 than in 1937—a decline of more than 10 per cent, notes the *Statistical Bulletin* of the Metropolitan Life. Present indications are that the number of deaths resulting from accidental injuries will run around 95 000 in 1938 which figure compares with 106 000 deaths

approximately in 1937 and with 110 000 deaths, the all time high figure in 1936. The 1938 loss was the lowest since the deep depression years of 1932 and 1933 when the number of deaths totaled 89 000 and 91 000 respectively.

Motor vehicle fatalities decreased about 8 000 or from about 40 000 in 1937 to between 31 000 and 32 000 deaths in 1938.

Some of the incurable patients of yesterday are the curable patients of today. It is therefore, reasonable to expect that some of the in

curable patients of today will be the curable patients of tomorrow—E. M. Bluestone, M.D. in *Hospitals*

# The Woman's Auxiliary

To the Medical Society of the State of New York

## Kings County

A meeting of the Woman's Auxiliary to the Medical Society of the County of Kings was held in the County Society Building on January 17, 1939. The president, Mrs. Milton Bergmann, introduced Dr. John L. Rice, Commissioner of Health, who spoke on "Public Health." Mrs. Mary E. Lewis, president of the National Doll and Toy Collectors Club, exhibited her collection of dolls and spoke on "Doll Collecting and Where It Has Taken Me." Among the guests of the auxiliary was Mrs. Daniel Swan, our State President, who congratulated the auxiliary on the work it has done and on its growth of membership. At the close of the executive session and program tea was served.

## Onondaga County

A Membership Tea was held by the Woman's Auxiliary to the Medical Society of the County of Onondaga on January 31, 1939, at the Sedgewick Farm Club. Invitations were extended to all women who are eligible to become members of the auxiliary. The president, Mrs. Winthrop Pennock, welcomed the members and guests.

Dr. William A. Groat, President of the Medical Society of the State of New York, addressed the members of the auxiliary and their guests. On the program for the afternoon was Mrs. Dorothy Kelley Carr who gave a series of recitations.

Mrs. Francis O. Harbach, chairman of arrangements, was assisted by an able committee.

## Queens County

Mrs. William Lavelle greeted the members of the Woman's Auxiliary to the Medical Society of the County of Queens at the first meeting held on January 31, 1939. Mrs. Lavelle asked for the cooperation of all the members in the activities of the auxiliary. Chairmen of committees reported that their committees were organized and their work for the year was being planned. Mrs. Robert Yanover, chairman of entertainment, said that final plans had been made for the bridge and tea given on February 8 in the Medical Society Building. The auxiliary enjoyed a film entitled "Eighty Years in Business" given by the Borden Company.

After the meeting a collation was served.

---

Mrs. George A. Green, 122 South Second Avenue, Mechanicville, N. Y., state chairman of program, has on hand several valuable manuscripts published by the Public Relations Bureau for county chairmen of program who request them. In writing to Mrs. Green, kindly state the date of meeting for which pamphlets are desired.

Headquarters for the Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York will be in the Hotel Syracuse, Syracuse, New York. Reservations may be made now.

---

## JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA

The William Potter Memorial Lecture will be delivered by M. W. Ireland, M. D., A. M., LL. D., Major General, U. S. Army, Retired, on "Medi-

cine's Debt to the United States Army," at the College Building, 1025 Walnut Street, Philadelphia, Thursday, February 23, at 8:15 P. M.

# Medical News

## Albany County

Dr Walter E Dandy of the Johns Hopkins Medical School who was to address the Medical Society of the County of Albany on January 25 on "The Diagnosis and Treatment of Lesions of the Cranial Nerves," was taken suddenly ill, and the committee was fortunate to obtain Dr Donald McEachern, Neurologist at McGill University to substitute for Dr Dandy. His subject was Unusual States of Hypotension and Hypertension and Their Treatment."

The new officers for 1939 are president, Dr James S Lyons, vice president, Dr Philip L Forster, secretary, Dr Homer L Nelms, treasurer, Dr Francis E Vosburgh, historian, Dr Charles K Winne, Jr, censors, Dr Otto A Faust, Dr Thomas O Gamble, Dr L Prescott Brown, Dr John J Phelan, and Dr William C Rausch, delegates, Dr Stanley E Alderson, Dr Frederic C Conway, and Dr W Burgess Cornell, alternate delegates, Dr Emerson C Kelly, Dr Raymond G Leddy, and Dr Charles A Perry

## Broome County

"Saturday evening January 21, was the scene of the annual dinner of the legislative committee of the Broome County Medical Society, having as guests the Honorable Bert Lord, Representative of the 34th Congressional District, State Senator Roy M Page, and Assemblyman Edward Vincent. Unfortunately, Mr Walters, our other Assemblyman, was ill and could not be with us

This dinner is primarily intended for a get together and social evening. Same has been held for some years early in the session of the Legislature. Due to the fact that few bills of direct interest to the physicians have been introduced at this time, very little of a legislative nature was undertaken beyond the expression of views on some of our perennial bills which we expect to see introduced soon

The legislative committee of the County Society consists of the Comita Minora, which combination we have found very satisfactory during the few years this policy has been followed "

## Clinton County

In a county-wide pneumonia-control program in January, members of the Clinton County Medical Society gave public addresses on the control of pneumonia to fourteen Home Bureau groups

## Columbia County

A course on general medicine has been arranged for members of the Columbia County Medical Society for alternate Tuesdays which opened on January 10 and will continue until March 7, at the Hudson City Hospital. Details have been arranged by Dr William S Ladd, Dean of Cornell University Medical College.

On January 10 the subject was "Physiological Interpretation of the Clinical Manifestations in Renal Diseases and Hypertension" The speaker was Dr William Goldring of New York

January 24, the subject was "Practical Endocrinology" The speaker, Dr Samuel H Geist of New York

February 7, the subject was "The Significance of Laboratory Tests and Methods in the Practice of Medicine." The speaker, Dr Ralph G Stillman, New York.

February 21, the subject will be "Dehydration, Acidosis, and Shock" The speaker, Dr Alexander B Gutman, New York.

March 7, the subject will be "Abdominal Pain" The speaker, Dr Edward M Livingston, New York

## Dutchess County

Dr Everett D Kiefer, department of Gastro-enterology of the Lahey Clinic, Boston, Mass, was the speaker at a meeting of the Dutchess County Medical



Society on January 11 at St Francis' hospital auditorium

He discussed "Functional Disorders of the Gastrointestinal Tract Colitis—Its Managements and Treatment "

At the December meeting the following officers were elected Dr Scott Lord Smith, president, Dr Gilbert S Tabor, vice-president, Dr L S Stoller, secretary-treasurer, Dr Edgar F Powell and Dr James J Toomey, censors, Dr Aaron Sobel, delegate, Dr Samuel E Appel, alternate delegate, and Mayor Spratt, counselor

### Erie County

The Buffalo Academy of Medicine, Section of Pathology, listened on January 25 to a paper on "Non-Caseating Tuberculosis," by Dr Max Pinner, New York City

The Section of Surgery heard on February 1 a paper on "Surgical Treatment of Peptic Ulcer," by Dr Howard K Gray, Mayo Clinic, Rochester, Minn

### Greene County

The Medical Society of Greene County met at the Memorial Hospital in Catskill on January 10 Dr George L Branch, newly elected president, presided, and during the absence of Secretary Dr William M Rapp, Dr M H Atkinson acted as secretary A large attendance was present.

Dr Gates, of Coxsackie, gave a short talk on the treatment of pneumonia

### Jefferson County

The monthly meeting of the Jefferson County Medical society was held on January 12 at the Black River Valley club Dinner was served at 6 30

Dr Charles M Carpenter, associate professor of bacteriology at the School of Medicine and Dentistry of the University of Rochester, discussed "The Cultural Method of the Diagnosis of Gonococcal Infection " Miss Helen Osterbur, nutritionist of the Jefferson County Tuberculosis and Public Health association, described her work

At 5 P M a tumor conference was held

at the House of the Good Samaritan Cases were presented for discussion

### Kings County

The chief features of the program of the Medical Society of the County of Kings on January 17 were

*Inaugural Address* "Present Day Problems in Medicine," Philip I Nash, M D, F A C P, Brooklyn

*Address* "The Surgical Treatment of Peptic Ulcer," George P Muller, M D, F A C S, Philadelphia, Pa

Dr William S Collens, Chairman, announces that the Clinical Committee has discussed the problem of making the Friday Afternoon Lecture series as practical and informative as is possible One of the recommendations that has been accepted in line with the plan is to offer a clinical demonstration by the speaker for one-half hour before the scheduled lecture on the subject about which he will speak Ambulatory clinical material will be furnished to the speaker and it is hoped that the speaker will then be able to demonstrate to the members of the audience his own methods of examining the patient and discuss the differential diagnosis during his examination Such clinical demonstrations should furnish concrete examples for the elucidation of the speaker's subsequent dissertation

The program for the month of March is already tentatively arranged and will include such subjects as (1) *Recent Contributions to the Aid of the Cardiac Examination*, (2) *The Clinical Diagnostic Aspects of the Early Diagnosis of Pulmonary Tuberculosis*, (3) *The Diagnostic and Therapeutic Aspects of Subdeltoid Bursitis*

It is also planned that no formal papers will be read and that the talks will be informal If time can be arranged for, it is also likely that questions and discussion will be permitted for approximately ten minutes

If there are any additional suggestions that any member of the Society may have to help to still further improve the Friday Afternoon Lectures, the Clinical Committee will enjoy receiving them

The Doctors' Musical Society of Brooklyn announces these organizations

*Doctors' Orchestra*—meets Wednesday evenings 47 Flatbush Ave., Brooklyn (Wurlitzer Bldg.), 8 30–11 00 P.M. We need more men and women who can play instruments.

*Doctors' Choir*—is rehearsing at 614 Eastern Parkway every Friday evening, 8 30 to 11 00. Additional doctors, who can sing, wanted.

*Doctors' Theater*—the first play, *In slant Relief*," a satire on Quicures and Quacks is in process of casting—doctors who wish to act may apply

*Muscle Lovers*—who don't play or sing, may give us their support by joining

For further information communicate with Dr H Tevel Zankel, 614 Eastern Parkway, Brooklyn, PResident 2 3443

The Brooklyn Thoracic Society presented this program on January 20

1 "The Acute Abdomen during Pneumothorax Therapy," Dr Benjamin Burbank, 2 "Mediastinal Flutter," Dr Daniel A. Mulvihill, 3 "Clinical Pathological Conference," Dr Charles Ford Warren

Dr John B D'Albora, president of the Kings County Medical Society last year, was given a dinner at the Waldorf-Astoria, 50th St. and Park Ave., Manhattan, Wednesday, January 25, by the Italian Medical Society of Brooklyn in recognition of his services to the borough and the medical profession

#### Monroe County

A "highlight" of the dedication of the new home of the Rochester Academy of Medicine was the presentation to Dr Albert D Kaiser, former academy president and chairman of the fund raising drive, of the first Albert David Kaiser medal

The award was in "recognition of community service and outstanding contribution to the Academy of Medicine" Dr David B Jewett, academy president, made the presentation speech

Dr Harry L. Segal and Dr George V

Taplin received the annual academy prizes for original medical theses. Subject of Dr Segal's thesis was "Cigarette Smoke As the Cause of Fatigue and Its Effect on the Electrocardiogram" Dr Taplin's was "Revised Technique for Laboratory Diagnosis, and Control of Serum Therapy in Pneumonia."

Principal speaker at the ceremonies was Dr John F Fulton, physiology professor at Yale University's school of medicine

Dr Fulton paid tribute to Dr George W Goler, retired Rochester health officer, and presented the academy's 20,000 volume library an early volume from the first medical journal, *Miscellanea Curiosa*

Dr William A Groat, President of the State Society, in congratulating the Academy on its enlarged capacity for scientific medical work, took occasion to commend warmly Governor Lehman's use of the scientific approach to insurance questions as recommended in his recent message to the Legislature

#### Nassau County

Dr Alexander Langmuir, of the state bureau of pneumonia control, visited Nassau County on February 1, 2, and 3, at the invitation of the County Medical Society, and gave twelve illustrated lectures on pneumonia.

#### New York County

The program of the Medical Society of the County of New York on January 23 included 1 Address of the Retiring President, Dr Clarence Bandler, 2 Inaugural Address of the President, Dr Howard Fox, 3 The Sinister Menace of Narcotic Drugs," Dr Arthur La Roe, President of the American Narcotic Defense Association

The New York Heart Association will hold its annual meeting to be followed by a scientific session, which will be open to physicians and medical students at the New York Academy of Medicine, Room 20, on Tuesday, February 28, at 8 30 P.M. The following program has been arranged "Review of the Year's Activities," Dr

Ernst P Boas, chairman of the association, "Description of the New 'Criteria,'" Dr Harold E B Pardee, "Treatment of Peripheral Vascular Disease," Dr Hugh Montgomery, University of Pennsylvania, Discussion by Dr. Irving S Wright, "The Ballistocardiogram Improvements on and Experience with an Old Physiological Method for Investigating the Heart and Circulation of Man," Dr Isaac Starr, University of Pennsylvania School of Medicine, Discussion by Dr Harry Gold

The annual meetings of the New York Tuberculosis and Health Association and of the Tuberculosis Sanatorium Conference of Metropolitan New York will be held at the Hotel Pennsylvania, New York City, Thursday, March 2. The morning session under the auspices of the Sanatorium Conference, Dr Foster Murray, chairman, presiding, will be held in the hotel's banquet room, starting at 9 30 A M

"The National Health Program" will be discussed at the 12 45 P M luncheon session, held under the auspices of the New York Tuberculosis and Health Association, Dr I Ogden Woodruff, president, presiding. Dr Abel Wolman, president of the American Public Health Association, will discuss the extent and magnitude of the national health program and Dr George Baehr, chairman, Technical Advisory Board, Committee on Neighborhood Health Development, New York City, will give the viewpoint of the practicing physician. Following the luncheon the Board of Directors of the New York Tuberculosis and Health Association will hold its annual meeting.

At the morning session community control of tuberculosis will be discussed. The program of the morning session is as follows. Dr Allan J Hruby, Secretary, Board of Directors, Chicago Municipal Tuberculosis Sanitarium, and Dr H McLeod Riggins, Assistant Visiting Physician, Bellevue Hospital Tuberculosis Service, will talk on "Collapse Therapy in the Control of Tuberculosis," discussion to be led by Dr Herbert R Ed-

wards, head of the Bureau of Tuberculosis of the New York City Health Department. Dr Esmond R Long, director, Henry Phipps Institute of Philadelphia, will talk on "Is the Tuberculin Test Worth While in Case Finding?" which will be discussed by Dr Bela Schick, director, Pediatric Division, Seaview Hospital, Dr Robert E Plunkett, General Superintendent of Tuberculosis, New York State Department of Health, and Dr Benjamin S Pollak, Medical Director, Hudson County Tuberculosis Hospital. Tuberculosis statistics for the Metropolitan area of New York for 1933 will be discussed by Godias J Drolet of the New York Tuberculosis and Health Association, and Miss Jessamine S Whitney of the National Tuberculosis Association. At this morning session the Tuberculosis Sanatorium Conference of Metropolitan New York will elect officers for the ensuing year.

For additional information, address Bernard S Coleman, Secretary, Tuberculosis Committee of the New York Tuberculosis and Health Association, 38 Fourth Avenue, New York City. Reservations for the luncheon (\$1 50) should be made before February 25.

Dr Karl M Bowman will speak at 4 30 on February 17 at the New York Academy of Medicine on "The Newer Methods of Treatment of Schizophrenia," and Dr Malcolm F Campbell will speak at 4 30 on February 24 on "Non-tuberculous Urinary Infections."

The program of the stated meeting of the New York Academy of Medicine on March 2 will be a symposium on arthritis. The speakers: Dr Philip S Hench, of Rochester, Minn., Dr Walter Bauer, of Boston, Dr Ralph H Boots. Discussion by Drs Philip D Wilson, Edward F Hartung, and Albert B Ferguson.

### Niagara County

Dr Walter L Machemer of Buffalo addressed the Niagara County Medical Society on January 10 in Lockport at the

Tuscarora Club on "The Diagnosis and Treatment of Bowel Obstruction"

### Oneida County

Nonprofit medical indemnity insurance was approved by the Oneida County Medical Society at its meeting in Utica on January 10. Dr Herbert N Squer, retiring president of the county society, appointed a committee of ten to work out details on the basis of plans now under way in Monroe, Erie, and Metropolitan counties.

Dr Paul P Gregory, Rome, was elected president of the county body. Others elected vice-president, Dr Frank J Rossi, secretary, Dr James I Farrell, treasurer, Dr Howard D McFarland, librarian, Dr T Wood Clarke, board of censors, Dr William B Roemer, Dr James B Lawler, Dr W C Schuntzin, Dr Herbert N Squer and Dr Martin T Powers.

Delegates for two years, Dr William Hale, Jr and Dr Kelley, alternates, two years, Dr Dan Mellen, Dr Arthur F Gaffney, for one year to succeed Dr Kelly, Dr Bradford F Golly.

Dr William B Roemer spoke before the Utica Medical Club when it met with Dr John Gromann on January 12.

His topic was "Zinc Peroxide in the Treatment of Wounds." A social hour and refreshments followed. The club has entered its 48th year. It has a membership of 20.

### Orange County

Dr Alexander J Barclay is the new

president of the Newburgh Bay Medical Society, elected at the annual dinner meeting in the Palatine Hotel on January 10. Dr Barclay succeeds Dr John F Mars. Dr Charles E Lane and Dr Leo C. DuBois were re-elected as secretary and treasurer, respectively.

Dr George H Gehrman, medical director of E I du Pont de Nemours, & Co., Inc., was the featured speaker at the meeting and explained the welfare plans of his company in its relation to the employees.

### Washington County

The program of the Medical Society of the County of Washington on January 10 included "Foreign Protein Therapy in General Practice," Dr Michael A. Mastrianni, Whitehall, and "Some Problems in Thyroid Disease," Dr George E Beilby, Albany, F.A.C.S., Asst. Surgeon, Albany Hospital, Surgeon, St. Peters Hospital.

### Westchester County

Dr W Godfrey Childress, of White Plains, is beginning his second term as president of the Westchester Tuberculosis and Health Association, Inc., after being re-elected to the post at the annual meeting in New York City on January 12.

Edward M. Ames, treasurer for eighteen years, was re-elected, as was James E Bryan, executive secretary of the Westchester County Medical Society who is secretary. Mr Bryan has served the association for three years in this capacity.

### REFRIGERATED BLOOD FOR ARMIES

The war clouds hanging over European countries have given an impetus to the study of whether refrigerated, or conserved, blood can be used on a large scale at or near the front. The employment of such blood during the present civil war in Spain has shown that it is an important addition to the resources of the military surgeon. Extensive studies cited in a Paris letter to the *A.M.A. Journal* have shown that blood kept at a temperature of 4 C retains all

its therapeutic qualities for from ten to fifteen days. Refrigerated blood, at least during the first week, resembles so closely fresh blood as to make it safe to use as a substitute. The authors cited the use of refrigerated blood during the civil war in Spain. The government surgeons use a citrated blood whereas in the insurgent armies the whole blood method as advocated by Yudin of Moscow is employed. The results have been equally satisfactory.

# Hospital News

## Curing the Chaos in Hospital Drug Therapy

A "DEPLORABLE condition" exists in the pharmacies of "the best hospitals in the country," as shown by their own reports, we are informed in a paper\* now published in *Hospital Management*, by M S Dooley, M D, and E C Reifstein, M D, of the Department of Pharmacology, Pharmacy of the University Hospital, and the Department of Medicine, College of Medicine, Syracuse University. In fact, they quote another writer as saying that "the shelves of some hospital pharmacies remind one of the exhibits of proprietary medicines in a chain-drug-soda-fountain-lunch-room." They frankly confess that this caustic remark "is well illustrated by our experience in the University Hospital," for "when we reorganized our pharmacy system, we discarded a large proportion from a total of about 1,000 preparations. Those, whether official and otherwise, were not necessarily condemned, although many were poor duplicates of approved preparations and others were harmful or valueless. Only pseudo-science and tradition declared them indispensable."

### A World-Wide Condition

Were this a purely local state of affairs, it would not be a problem, but reports from the best hospitals in the country show a similar deplorable condition, we are told. For example, one hospital had 1,500 drugs in stock, another 1,600, others reported removal of 300 to 500 items. Judging from the literature, advertising, and the mass of unworthy, unnecessary drugs imported, this condition is not only world-wide, but is possibly worse elsewhere than in the United States.

The question is, can any hospital staff intelligently prescribe 1,600, 1,500, or even 500 drugs, including diagnostic agents? Although any one member may order only a fraction of them in practice,

as a student and subsequently, he had the ordeal of trying to learn all of them. Experience teaches that he obviously misses adequate knowledge of the few of merit. Such defective and thinly spread teaching about drugs permeates the whole present-day medical curriculum. This kind of thing goes on daily in spite of the fact that there are now many scientific criteria for charting drug actions in the clinic, making it easily possible in most instances to detect poor kinds and qualities of drugs.

Medical responsibility for unreliable preparations remaining in the market needs to be realized if drug therapy is to keep pace with exactness of diagnosis. Notwithstanding the truth of this, the staff member's main contribution to the size and efficacy of hospital drug stocks now, as in the past, is an unchallenged selection of drugs, and there is little realization of the continuing blight on rational therapy resulting from this age-long prerogative.

### The Syracuse Plan

Having stated the unenviable status of present-day drug therapy as reflected in pharmacy stocks, we now describe the plan, ten years in operation, based on ward experiences, consultations, staff conferences, pharmacy control, country-wide inquiries, which has obviated, in University Hospital, many of the bad features of the drug problem. While widely gathered information has been helpful, a continued exacting drive on our own drug stock has resulted in the almost exclusive use of drugs of established value. Therapeutic advance, we believe, awaits general adoption of this or some similar plan.

The chairman of the staff pharmacy committee took seriously the admonition to find "a way out of the chaotic drug situation in our hospital." The committee's efforts finally led to publication

\* Presented at the 21st Annual Hospital Standardization Conference, New York City, October 17-21, 1938.

of *The Interns Handbook*, which contained, as a major feature, a sharply limited list of drugs rigorously selected because of pharmaceutical adaptability, pharmacologic soundness, and therapeutic usefulness, and using the U.S.P., the N.F., New and Non Official Remedies, Useful Drugs, and pharmacology texts as a basis.

The staff voted adoption of this selection of drugs without serious thought of its effects on prescribing habits, but it is one thing to adopt a drug list, quite another to maintain it, especially in an open-staff hospital. Emotions have played their part in our work. Some staff members having adjusted slowly to a restricted list of drugs, not in hostility but as if it were somebody's "hobby." With prescription pad in hand, the physician is prone to obey time-worn habits and forget a drug list he helped to select. To maintain such a stock in any hospital requires, not the mere setting up of a list and rules, but the constant intelligent vigilance of an outwardly undiscouraged person who must be fairly conversant with pharmacy, able to brush aside pseudo-science, and, above all, to speak the language of the therapist. Indeed it is unsafe to go into the drug market without the pharmacologic and therapeutic knowledge possessed only by a physician. In our work, medical administrative and nursing support has been limited only by our ability to impress our objectives with consideration and clarity.

### Medication Simplified

It may be helpful to give some further details of operation and, finally, to suggest some far reaching possibilities, could a similar plan be generally adopted.

The variety of drugs available is determined by the medical director and the pharmacy committee with the aid of the pharmacist, the latter then maintaining

appearance, freshness and potency of stocks, exactness of solutions, titration, sterilization, preservation, and labeling. Although recently the Council on Medical Education and Hospitals, at the initiative of the American Pharmaceutical Association wisely approved full-time pharmacists, this does not qualify pharmacists to select the drugs for hospital needs, a crucial duty, which, if assumed intelligently by physicians, would add greatly to the welfare of patients, quickly reduce the scope, and increase the quality of drugs. Once they come to recognize reliable information about drugs, as about methods of diagnosis, commercial prostitution of drugs will cease.

On this basis, our pharmacy is no longer a vague institution to staff members but is a part of the clinical laboratory system which frees it from serving merely at the dead level of pill counting, dispensing nostrums, specialties, and ready-made proprietaries.

Needless to say, the plan as outlined has strongly influenced the therapy of private patients. These pay for unapproved drugs as purchased on the outside. Excessive costs of such items discourage ill founded medication and stock accumulations. Thus, without coercive intent, an ideal is held before the prescriber.

New drugs present another problem. These are issued as are other unapproved items after the usual reminder, but come at once before the pharmacy committee for review. The service involved is informed of findings as a basis for joint approval or rejection. Pertinent bulletins on these and other drug questions are posted from time to time in the staff room.

It will be seen from this brief outline that medication can be simplified to the advantage of patients and the hospital budget, the essential requisite being a sustained interest of the staff in the careful selection of each drug used.

---

Surgeon General Thomas Parran in his annual report says: "A greater advance has been made in public health in the United States during the past two years than ever before within a comparable period."

---

The bulletins issued by the Educational Committee of the Illinois State Medical Society are so good that teachers and hospital directors are asking for copies to give to pupils and patients.

## Buffalo's Hospital Scout Troop

**A** BOY SCOUT troop that does its scouting in a hospital—that is boy scout troop No. 144 of Buffalo, New York. Its locale is the Children's Hospital.

The troop was originated a year ago, reports Moir P. Tanner in *The Modern Hospital*. It has aroused the interest of the boys who are patients, the hospital personnel, and the community. Members of the scout headquarters staff aided in the organization, assisted in the opening meeting, and since then have given their full co-operation to all activities. Thus they have overlooked technicalities regarding age, chiefly because they can visualize the value of scout training to these youngsters. The advantage is not one-sided, however. Discipline of these youngsters has ceased to be a problem.

As they become familiar with the boy scout creed we find the boys in our troop doing their best to be of as little trouble as possible. Their school work has improved immeasurably.

The other day one of the staff doctors said to a lad: "Well, Dickie, you can go home Tuesday." Instead of the expected glee, the doctor saw two large

tears roll down the boy's cheeks as he stammered, "Gee, doc, can't you make it Friday, 'cause scout meeting is on Thursday?"

To many it might appear that a scout would need much wit and ingenuity to find a good turn to do every day in a hospital. But such is not the case. It is amazing how many good turns scout-trained eyes can see to do.

"If you're busy I'll feed Joe," offers a scout as he sees a nurse about to serve a patient who cannot manage alone. Perhaps a comrade is tired and uncomfortable and bored. "I'll read to Pete awhile," offers a scout, alert to do his good turn.

Meetings are held on Thursday nights. Some of the boys wear their scout uniforms and all of them wear scout neckerchiefs. As the meeting opens the colors are raised, the court of honor gives examinations and awards merit badges.

Our scout troop has opened up a new life for these boys. In the future it seems likely that more troops will be located in places in which boys are cared for. For boys who cannot go out into the world of scouting, this greatest of all boys' organizations can come to them!

## A Beauty Parlor in the Hospital

**T**WO YEARS ago a hospital in New York City began to visualize the value of beauty service for its patients as well as for its entire staff. Assuming that there is truth in the statement, "We feel as well as we look," this institution decided to experiment and find out if modern scientific treatment of the hair, skin, and nails would not actually hasten the patient's convalescence and also develop a better morale among the personnel. The decision was reached, says Raymond P. Sloan in *The Modern Hospital*, after a careful examination and study of the attitudes of patients, doctors, nurses, and beauticians.

Doctors admitted that the idea had

possibilities, patients and nurses alike were enthusiastic, a beautician of national reputation was discovered who envisioned in the project opportunities for raising the standards of his profession. So it happened two years ago that Manhattan General Hospital announced a new service, thoroughly modern beauty facilities for patients and employees. Time has brought even stronger conviction that a well organized and carefully supervised beauty salon can and should play a part in the convalescent care of patients in our hospitals today.

Treatments of the skin, scalp, and nails are administered in a suite of eight commodious rooms at Manhattan General

Hospital to those patients who have received the approval of their doctors, also to nurses and other members of the staff. Some of the work is carried on at the bedside, always with the doctors' permission, by operators carefully selected and especially trained. The girls must have a sympathetic nature, present a good appearance, and, most important of all, talk only when spoken to.

Walk down the main corridor on the first floor and turn to the left. The visitor enters a small foyer containing an appointment desk and a glass showcase in which are displayed numerous silver trophies awarded to Adolph, the beautician who eight times has received the national prize for hair dressing and who for three years in succession has won the international prize.

### It's a "Real Occasion"

A capital outlay of between \$6,000 and \$7,000 is represented for the equipment. It includes portable machines that may be rolled alongside the bed for facials as well as dryers and lights. Then there are the treatment chairs and other furniture.

With such facilities available, it is not surprising that the patients enjoy the variety of being wheeled down to Adolph's to get "fixed up." It becomes a real occasion to which they look forward, a welcome interruption to hospital routine.

Just as relaxing and beneficial are the treatments given those patients who are confined to their beds. While their bodies are rebuilding, their hair and skin likewise are being properly nourished. Following the call of the young lady attendant, the sanction of the doctor is obtained and an appointment is made. Soon the necessary equipment is rolled up to the bed and the treatment starts—a dry shampoo, perhaps, or a facial or a manicure. As she finishes, the operator takes the machine and gives the patient a light arm and hand massage, which is soothing and relaxing. In consequence, the hair soon regains its luster, the skin takes on the glow of health, and the nails become smooth and strong. Many a doctor confesses that he has to be introduced to his patient all over again. And the patient admits that she feels like a different person.

## Newsy Notes

Statistics compiled by the Associated Hospital Service of New York show that the average married woman passes twice as many days each year in a hospital as does her husband. Frank Van Dyk, executive director of the service, reported at a dinner of the American Statistical Association.

Memberships more than doubled during 1938 in the Central New York Hospital Service Corporation, according to reports presented at the annual meeting in Utica. On December 31, 1938, membership numbered 30,090, showing an increase of 18,848 during the year. Seven new district offices were added to make a total of 11, and seven new hospitals which brought their number to 15.

five hospitals in Rochester are asking an advance in the flat rate provided for indigent sick. The hospitals claim indigent sick are carried at a loss of \$1 per patient under present city allowance. The city allows an average of \$4 per day with the cost running to \$5, doctors said.

At a meeting of the Employees Association of the New York State Hospital at Dannemora it was voted to have a bill introduced in the State Legislature to permit employees of the State Hospital to board outside the institution, and to receive in lieu of board the money now deducted from their salaries. Claude Bigelow, president of the Employees Association, said he expected the bill to pass.

Claiming general financial distress,

It was urged at the annual meeting of



the Memorial Hospital of Ithaca that the city take it over "or give us more support"

"The time has come for the city and county to pay their just share of our budget and losses," D A Saperstone, chairman of the credit committee, told them "We're losing money and uncollected accounts are piling up"

Urging definite city support, he pointed out "this hospital can no longer be called a private or even a semiprivate institution We are operating for the good of all our citizens, the same as some of our other city institutions"

. . .

Arrangements for the Jamaica Hospital Circus are rapidly nearing completion, under the leadership of David Ketcham A circus headquarters office has been opened at 90-32 Union Hall St, Jamaica Advance tickets are being sold The circus will play the week of April 17 There will be thirteen complete shows, two daily and three on Saturday Daily matinees will start at 4 P M and the evening performance at 8 15 P M, except Saturday when there will be a special show for children at 10 A M and a matinee at 2 30 P M There will be a boys or girls bicycle awarded at each matinee

The armory on 168th St near Jamaica Ave, will be transformed into an amphitheatre, with a seating capacity of 1,200 for the circus Three rings and two platforms will be used in presenting the performers, many of them making their first appearance after closing winter quarters Other acts, the committee announces, will come from abroad and are making their first American bow

A reduction in rates has been announced by the Hospital Service Corporation of Jefferson County The individual rate will be \$8 a year instead of \$9 and the family rate \$20 instead of \$24

. . .

Because of the abuse of the Medina Memorial Hospital special clinic service

for the poor by persons able to afford regular medical and hospital fees, the medical staff of the hospital has voted to discontinue the clinics, according to an announcement made following the annual staff meeting

. . .

After ninety young women of the Augustana Hospital chorus took their seats at the Sunday Evening club session, the singing director suggested the audience rise and sing "God Send Us Men"—*Chicago Tribune*

. . .

Flying hospitals—speediest and newest of Uncle Sam's medical aids—are maintained at eight air bases along both coastlines and the Gulf of Mexico, according to an article by S R Winters, of Washington, D C, in the February issue of *Hygienia, The Health Magazine*

Twenty-one seaplanes are poised ready to answer medical calls from ships at sea. Aid to injured sailors and passengers and removal of persons from disabled vessels are the usual services they render "NCU," meaning "any Coast Guard unit," is the radio call that summons one of these planes This request for medical assistance is given right-of-way

The idea was first put into practice a few years ago when five seaplanes, known as flying lifeboats, began their task of rescuing human lives out at sea The planes carry a crew of four, and twenty passengers may be accommodated in an emergency They are constructed to make landings on rough seas if necessary Each one is equipped with a collapsible lifeboat and has stretchers for removing the injured from ships The planes are met at their landing field by ambulances to rush the patients to the nearest hospital

In addition to these services the planes endeavor to warn people of impending danger and assist extensively during floods and other disasters by transporting serums and biologic supplies and scouting the afflicted areas for purposes of operation planning

## Improvements

The year just closed witnessed nearly a 50 per cent increase in the value of new hospital building projects authorized. Nearly \$149,000,000 of new projects were started, as reported in *The Modern Hospital*, compared with \$103,500,000 for 1937. The 1936 figure was \$96,000,000, in 1935 it was \$41,000,000, and in 1934 only \$39,000,000. So 1938 constitutes the largest post-depression year by a wide margin. Most of the actual construction, of course, will not be completed until some time in 1939 as over \$60,000,000 was authorized in October, November, and December.

Up-to-date figures on the number of beds added are not available at this time but it is doubtful if the increased construction has been sufficient to overcome the deficit piled up during the depression years when construction did not keep pace with growth of population, obsolescence of buildings, and scientific advances in hospital service.

The first therapeutic pool in the Bronx for aftercare of infantile paralysis victims was dedicated in January at Bronx Hospital, 1276 Fulton Ave.

The need of a new main building for the Hudson City Hospital was expressed and plans were revealed for a new addition to the operating room, by Surrogate Robert G. Patne, president of the hospital Board of Trustees, at the annual meeting of the board.

Trustees of St. John's Riverside Hospital are planning to enlarge facilities at the institution within the near future, Dr. Robert H. Shanahan, newly re-elected

president of the board, announced at the annual meeting.

The memory of Peter David Levine, twelve year-old victim of the sensational kidnap murder case, will be perpetuated in the furnishing of a room in the new addition to New Rochelle Hospital by the boy's friends. "This room furnished in memory of Peter D. Levine by his friends," will be the text of a bronze plaque on the door of the room. Marked progress in erection of the extensive addition is being made, the hospital reports. Opening of the new addition is forecast for July 1.

The Leonard Hospital, Troy, has bought the McKean residence, long one of the city's show places, as living quarters for staff members of the hospital. A large living room, reception hall, dining room, and kitchen are contained on the first floor. The second floor has four baths, eight bedrooms, and a large, enclosed sleeping porch.

Mercy Hospital in Buffalo, conducted by the Sisters of Mercy, has installed a new 220,000-volt x-ray machine which cost more than \$10,000. In co-operating in the statewide campaign for the eradication of cancer, the hospital has established a new department of x-ray therapy. The staff is progressing with the establishment of a separate clinic in which early diagnosis of cancer will be stressed. The hospital has a well-equipped laboratory in which specimens can be examined. If necessary, the service will be enlarged and definite days will be specified for tumor cases. Before the new equipment could be installed, an entire section of the hospital building had to be remodeled.

## At the Helm

These hospital officials have been chosen:

Dr. Frank H. Herrington, to be chair

man of the medical staff of Horton Memorial Hospital, Middletown.

Dr. J. E. Canfield, to be chief of staff

the Memorial Hospital of Ithaca that the city take it over "or give us more support."

"The time has come for the city and county to pay their just share of our budget and losses," D A Saperstone, chairman of the credit committee, told them "We're losing money and uncollected accounts are piling up"

Urging definite city support, he pointed out "this hospital can no longer be called a private or even a semiprivate institution We are operating for the good of all our citizens, the same as some of our other city institutions"

. . .

Arrangements for the Jamaica Hospital Circus are rapidly nearing completion, under the leadership of David Ketchem A circus headquarters office has been opened at 90-32 Union Hall St., Jamaica Advance tickets are being sold The circus will play the week of April 17 There will be thirteen complete shows, two daily and three on Saturday Daily matinees will start at 4 P M and the evening performance at 8 15 P M, except Saturday when there will be a special show for children at 10 A M and a matinee at 2 30 P M There will be a boys or girls bicycle awarded at each matinee

The armory on 168th St near Jamaica Ave, will be transformed into an amphitheatre, with a seating capacity of 1,200 for the circus Three rings and two platforms will be used in presenting the performers, many of them making their first appearance after closing winter quarters Other acts, the committee announces, will come from abroad and are making their first American bow

. . .

A reduction in rates has been announced by the Hospital Service Corporation of Jefferson County The individual rate will be \$8 a year instead of \$9 and the family rate \$20 instead of \$24

. . .

Because of the abuse of the Medina Memorial Hospital special clinic service

for the poor by persons able to afford regular medical and hospital fees, the medical staff of the hospital has voted to discontinue the clinics, according to an announcement made following the annual staff meeting

.

After ninety young women of the Augustana Hospital chorus took their seats at the Sunday Evening club session, the singing director suggested the audience rise and sing "God Send Us Men"—*Chicago Tribune*

. . .

Flying hospitals—speediest and newest of Uncle Sam's medical aids—are maintained at eight air bases along both coastlines and the Gulf of Mexico, according to an article by S R Winters, of Washington, D C, in the February issue of *Hygeia, The Health Magazine*

Twenty-one seaplanes are poised ready to answer medical calls from ships at sea Aid to injured sailors and passengers and removal of persons from disabled vessels are the usual services they render "NCU," meaning "any Coast Guard unit," is the radio call that summons one of these planes This request for medical assistance is given right-of-way

The idea was first put into practice a few years ago when five seaplanes, known as flying lifeboats, began their task of rescuing human lives out at sea The planes carry a crew of four, and twenty passengers may be accommodated in an emergency They are constructed to make landings on rough seas if necessary Each one is equipped with a collapsible lifeboat and has stretchers for removing the injured from ships The planes are met at their landing field by ambulances to rush the patients to the nearest hospital

In addition to these services the planes endeavor to warn people of impending danger and assist extensively during floods and other disasters by transporting serums and biologic supplies and scouting the afflicted areas for purposes of operation planning

## Improvements

The year just closed witnessed nearly a 50 per cent increase in the value of new hospital building projects authorized. Nearly \$149,000,000 of new projects were started, as reported in *The Modern Hospital*, compared with \$103,500,000 for 1937. The 1936 figure was \$90,000,000, in 1935 it was \$41,000,000, and in 1934 only \$39,000,000. So 1938 constitutes the largest post-depression year by a wide margin. Most of the actual construction, of course, will not be completed until some time in 1939 as over \$80,000,000 was authorized in October, November and December.

Up to-date figures on the number of beds added are not available at this time but it is doubtful if the increased construction has been sufficient to overcome the deficit piled up during the depression years when construction did not keep pace with growth of population, obsolescence of buildings, and scientific advances in hospital service.

The first therapeutic pool in the Bronx for aftercare of infantile paralysis victims was dedicated in January at Bronx Hospital, 1276 Fulton Ave.

The need of a new main building for the Hudson City Hospital was expressed and plans were revealed for a new addition to the operating room, by Surrogate Robert G. Patne, president of the hospital Board of Trustees at the annual meeting of the board.

Trustees of St. John's Riverside Hospital are planning to enlarge facilities at the institution within the near future, Dr. Robert H. Shanahan, newly re-elected

president of the board, announced at the annual meeting.

The memory of Peter David Levine, twelve-year-old victim of the sensational kidnap-murder case, will be perpetuated in the furnishing of a room in the new addition to New Rochelle Hospital by the boy's friends. This room furnished in memory of Peter D. Levine by his friends, will be the text of a bronze plaque on the door of the room. Marked progress in erection of the extensive addition is being made, the hospital reports. Opening of the new addition is forecast for July 1.

The Leonard Hospital, Troy, has bought the McKean residence, long one of the city's show places, as living quarters for staff members of the hospital. A large living room, reception hall, dining room, and kitchen are contained on the first floor. The second floor has four baths, eight bedrooms, and a large, enclosed sleeping porch.

Mercy Hospital in Buffalo, conducted by the Sisters of Mercy, has installed a new 220,000-volt x-ray machine which cost more than \$10,000. In co-operating in the statewide campaign for the eradication of cancer, the hospital has established a new department of x-ray therapy. The staff is progressing with the establishment of a separate clinic in which early diagnosis of cancer will be stressed. The hospital has a well-equipped laboratory in which specimens can be examined. If necessary, the service will be enlarged and definite days will be specified for tumor cases. Before the new equipment could be installed, an entire section of the hospital building had to be remodeled.

## At the Helm

These hospital officials have been chosen:

Dr. Frank H. Herrington, to be chair-

man of the medical staff of Horton Memorial Hospital, Middletown.

Dr. J. E. Canfield, to be chief of staff.

space for dressings and instruments, sterilizers, twenty gallons of sterilized water, etc. The unit carries its own lighting and heating arrangements. It also has twelve stretcher places and sitting accommodation for twelve more. The same laboratory is building a collapsible ambulance trailer to carry twelve stretchers.

That, in brief, is London's plan. Where is ours?

It would be absurd to think that American intelligence cannot make plans for our own cities that will be equally good—and perhaps better. The danger looms darkly on our horizon.

Why wait for it to strike us unprepared?  
W S W

## WARNED IN TIME

["Herr Julius Streicher, addressing a thousand members of the Nazi Welfare Medical Administration at Munich, suggested that Herr Hitler and Signor Mussolini were great because they were non smokers. —News item.]

Tobacco is a noisome weed (Herr Streicher he has said it),

And from its victims there proceed no men of worth and credit,

Though Bismarck puffed, and even snuffed, and kept cigars a-going,

He was a dud—his name is mud on Streicher's latest showing

The men of State, the good and great, avoid those hideous vapours,

Their names appear all bright and clear on History's page and papers

Tobacco jars and fat cigars both fall beneath their veto,

They scorn all types from fags to pipes, like Adolf and Benito

And yet beware—if that bright pair of dictatorial jokers

Now represent the mood and bent achieved by staunch non-smokers,

Why, some may flock to fill, restock their smoking store or larder,

Resolved to miss that doubtful bliss by smoking all the harder

—*Manchester Guardian*

## ANALYSIS OF THREE KICKERS

"I cannot understand why so few men attend their county and state medical society meetings. It is not because they are so busy, as the busiest physicians are always found where there is a chance to learn. After years of observation I have reached the conclusion that there are three kinds of physicians who don't attend meetings—(1) the person who has not the ability to plan his work so that he can have an evening for recreation at the meeting, (2) the man who thinks he knows it all, has not read a new book since leaving school, and has no time for reading the JOURNAL or other publications, and (3) the man who is afraid he might lose a patient should he leave his office. These three types form the fault-finding group, they complain, but will not come to the meetings and put their shoulders to the wheel, clarify their visions, help remove the faults they see, and become what is most needed by the society and always welcomed by its officers—workers instead of drones or complainers.

"Yes, the opportunity for the present-day physician to be an up-to-date physician is right at his door, and I am not only sorry for those who are missing these opportunities, but for their patients."—John A. Hawkins, M.D., *Pittsburgh Medical Bulletin*

## ELECTROLYSIS ONLY SAFE WAY TO REMOVE HAIR

Electrolysis is the only method for permanent and safe removal of unwanted hairs or abnormal growths of hair on various parts of the body, Anthony C. Cipollaro, M.D., New York, declares in an article published by the Council on Physical Therapy in the *J A M A* for December 31.

It is also the best method for treating many other conditions of the skin. However, it is far

from being a safe procedure in unskilled hands. Carelessness and ignorance when applied to electrolysis may cause injuries to the skin which are objectionable, disfiguring, painful and even, at times, dangerous.

Electrolysis can be used properly only by physicians qualified by training, education and experience and with a thorough knowledge of the anatomy of the skin.

# The Women's Medical Society of New York State

**T**WO meetings a year are held by the Women's Medical Society of New York State, all of whose members must belong to the component county societies of the Medical Society of the State of New York. The next annual meeting will occur in New York City on May 8 and 9, 1939.

The midyear, semiannual meeting was held in New York City January 7 and 8, 1939, conjointly with the New York Infirmary and the Woman's Medical Society of New York City.

On Saturday morning, January 7, there was a Councilors' Meeting in the Board Room of the Lenox Hill Hospital. There was an interesting scientific session at eleven o'clock, followed by luncheon. All women physicians were welcomed.

That evening there was a dinner at the Town Hall Club, in conjunction with the

Woman's Medical Society of New York City. Dr. Kate B. Karpeles and Dr. Elizabeth Kittredge extended the greetings of the American Medical Women's Association. Presidents of several state societies were present. On Sunday, January 8, an afternoon tea for members and their guests was given by the president, Dr. Madge C. L. McGuinness.

The program of the scientific session held on Saturday morning was as follows:

"The Relation of Infant Nurture to Mental Health," by Dr. Margarethe A. Ribble, "Five Year Follow-Up of Fifty Cases of Varicose Veins Treated by Injection," by Frances H. Bogatko, "Difficulties of Parents in Understanding Their Children," by Dr. Mary M. Thomas, "Recent Advances in the Treatment of Pulmonary Tuberculosis," by Dr. Theresa Scanlan.

## Officers of the Women's Medical Society

### Honorary Presidents

Mary T. Greene, M.D.  
Helene J. C. Kuhlmann, M.D.  
Rosalie Slaughter Morton, M.D.  
Marion Craig Potter, M.D.

### President

Madge C. L. McGuinness, M.D.  
1211 Madison Ave., N. Y. C.

### Vice-Presidents

Kathleen Buck, M.D.  
331 Monroe Ave., Rochester  
Annie Daniel, M.D.  
103 E. 15th St., New York City  
Alice Stone Woolley, M.D.  
29 B. Hamilton St., Poughkeepsie

### Treasurer

Alta Bager Green, M.D.  
30 S. Cayuga St., Williamsville

### Secretary

Marguerite P. McCarthy, M.D.  
107 Caroline Ave., Solway

### Councilors

1st District Branch  
Isabel Knowlton, M.D.  
80 Irving Place, New York City

### 2nd District Branch

Mary E. Potter, M.D.  
305 Washington Ave., Brooklyn

### 3rd District Branch

Isabella Borden, M.D.  
State Education Dept., Albany

### 4th District Branch

Janet Murray, M.D.  
14 Mynderse St., Schenectady

### 5th District Branch

Clara Pierce, M.D.  
137 Harding Pl., Syracuse

### 6th District Branch

Anna M. Stuart, M.D.  
658 Park Pl., Elmira

### 7th District Branch

M. Louise Hurrell, M.D.  
277 Alexander St., Rochester

### 8th District Branch

Catherine Carnivale, M.D.  
391 Jersey St., Buffalo

### Honorary Councilors

Helene J. C. Kuhlmann, M.D.  
Marion Craig Potter, M.D.  
Angerette Parry, M.D.  
Maud J. Frye, M.D.  
Emily Dunning Barringer, M.D.  
Lois L. Gannett, M.D.  
Eather Parker, M.D.  
Harriet M. Doane, M.D.  
Mary Dunning Rose, M.D.  
Ethel Doty Brown, M.D.  
Rosalie Slaughter Morton, M.D.  
Anna H. Vorrhis, M.D.  
Daisy M. O. Robinson, M.D.  
Louise Beams-Hood, M.D.  
Marion S. Morse, M.D.  
Mary J. Kazmierczak, M.D.  
Clara H. Pierce, M.D.  
Elise S. L. Esperance, M.D.

## CHAIRMAN OF COMMITTEES

### Scientific Program

Margaret Warwick, M.D.  
Millard Fillmore Hospital, Buffalo

### Legislative

Louise Beams-Hood, M.D.  
163 Bidwell Parkway, Buffalo

### Medical Education

Mary T. Greene, M.D.  
Castile

### Public Health

Sophie Rabinoff, M.D.  
130 W. 86th St., New York City

### Public Relations

Wilhelmina Ragland, M.D.  
115 E. 17th St., New York City

### Membership

Isabel M. Scharnagel, M.D.  
26 W. 9th St., New York City

### Resolutions

Helen Palliser, M.D.  
251 Church St., Poughkeepsie

### Publicity

Anna Kleegman Daniels, M.D.  
40 W. 72nd St., New York City

# Books

Books for review should be sent to the Book Review Department at 1318 Bedford Avenue, Brooklyn, N Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**Internal Medicine Its Theory and Practice in Contributions by American Authors** Edited by John H Musser, M D Third edition Quarto of 1,428 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$10 00

**The Etiology of Trachoma.** By Louis A Julhelle Octavo of 248 pages, illustrated New York, The Commonwealth Fund, 1938 Cloth, \$3.25

**Biography of the Unborn** By Margaret S Gilbert. Octavo of 132 pages, illustrated Baltimore, The Williams & Wilkins Company, 1938 Cloth, \$1 75

**The Pneumonias.** By Hobart A Reimann, M D Octavo of 381 pages, illustrated Philadelphia, W B Saunders Company, 1938 Cloth, \$5 50

**Diseases of the Chest and the Principles of Physical Diagnosis** By George W Norris, M D, and H R M Landis, M D Sixth edition Octavo of 1,019 pages, illustrated Philadelphia, W B Saunders Company, 1938 Cloth, \$10 00

**A Textbook of Histology Functional Significance of Cells and Intercellular Substances** By E V Cowdry Second edition. Quarto of 600 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$7 00

**Insomnia Its Causes and Treatment.** By John A P Millet, M D Duodecimo of 195 pages New York, Greenberg Publisher, 1938 Cloth, \$1 75

**The Practice of Medicine.** By Jonathan C Meakins, M D Second edition Quarto of 1,413 pages, illustrated St. Louis, The C V Mosby Company, 1938 Cloth, \$12 50

**Big Fleas Have Little Fleas or Who's Who Among the Protozoa** By Robert Hegner Quarto of 285 pages, illustrated Baltimore, Williams & Wilkins Co, 1938 Cloth, \$3 00

**Plastic Surgery** By Arthur J Barsky, M D Octavo of 355 pages, illustrated Philadelphia W B Saunders Company, 1938 Cloth, \$5 75,

---

## REVIEWED

**The Radiology of Pulmonary Tuberculosis.** By J E Bannen, M B Octavo of 156 pages, illustrated Baltimore, William Wood and Company, 1937 Cloth, \$4 50

In the publication of this volume the author has had a worthwhile purpose, i.e., the inclusion within its pages of the requisites for a knowledge necessary for the proper interpretation of the radiograph of the lungs The contents deal with the technical aspects of roentgenography of the chest, radiologic consideration of the normal and pathologic lung, the pathogenesis, medical and surgical aspects of pulmonary tuberculosis Unfortunately, however, the discussion of these topics is much too brief to serve the purpose

RICHARD A RENDICH

**The Infant. A Handbook of Modern Treatment.** By Eric Pritchard, M D Octavo of 744 pages, illustrated Baltimore, William Wood & Company, 1938 Cloth, \$6 00

This is "not a textbook or dictionary of treatment," it is rather a handbook for reference. It contains, in almost verbatim report, a series of lectures given by the author at the Infants Hospital, London, of which he was for a number of years medical director

The book covers the treatment of those diseases affecting the infant up to the fifth year of life. It contains a selection of the methods with which the author in his extensive hospital practice has had personal experience and which he believes the best and the most reliable Certain of the measures advocated, the

author properly states are both new and original. Among these, particular mention should be made of the intensive treatment of pulmonary tuberculosis by creosote, the prophylactic use of Koch's old tuberculin for the production of immunity to this infection in young infants, and the treatment of celiac disease without the exclusion of fats from the diet. This book contains much of interest, and it is characterized throughout by originality of thought, keen observation, clear and logical deductions. For these reasons and because of the large clinical experience of the author it is to be expected that this work will receive a cordial reception. It is beyond doubt a most useful, valuable, and modern contribution to pediatric literature.

JOSEPH C. REGAN

**The Biology of Arteriosclerosis.** By M. C. Winternitz, M.D. R. M. Thomas, M.D. and P. M. LeCompte, M.D. Octavo of 139 pages, illustrated. Springfield, Charles C. Thomas, 1938. Cloth \$4.00.

The authors of this monograph hope to establish a better foundation on which to base future study of vascular diseases. By the use of the long known methods of injection and tissue clearing they have worked out the pattern of the origin and distribution of blood vessels in the walls of the arteries. He correlates the gross and microscopic changes in blood vessels, demonstrates that tissue changes here are by no means different from that found elsewhere in the body, and decries the term "degeneration" as applied to arteriosclerosis.

SAM P. BAILEY

**Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relation to Clinical Medicine.** By Francis M. Pottenger, M.D. Fifth edition. Octavo of 442 pages, illustrated. St. Louis, The C. V. Mosby Company 1938. Cloth \$5.00.

This is the fifth edition of a work that first appeared in 1919. Dr. Pottenger was among the first to grasp the significance of the implications of the autonomic nervous system in medicine in general.

He has kept pace with the various contributions made during the past two decades.

His book is an excellent summary of the various conditions in which the autonomic nervous system is involved. There are thirty six chapters in the book each dealing with a particular phase of the subject. Numerous illustrations clarify the subject matter. The many references at the end of each chapter will prove a guide to the progressive doctor whenever he desires further information on any particular subject.

While interest in the autonomic nervous system has been aroused in late years because of surgical method of treatment introduced in such subjects as angina, hypertension, and peripheral vascular disease, the medical implications are too numerous to mention. For this reason the book is particularly recommended, as it covers the subject adequately, and is written in a clear and concise manner.

It is highly recommended to those who desire to keep abreast with the fundamental contributions to medicine.

IRVING J. SANDS

**Diseases of the Thyroid, Parathyroids, and Thymus.** By André Crotti, M.D. Third edition, thoroughly revised and enlarged. Quarto of 1,229 pages, illustrated. Philadelphia, Lea & Febiger 1938. Cloth \$20.00.

This is a thoroughly revised and enlarged third edition with 202 illustrations, thirty-nine plates in color and 1,092 pages of text. The material encompassed in this volume is based on a large personal experience in the surgical and medical treatment of goiters. There are fifty-one chapters which treat of the anatomy, physiology, chemistry, interrelations, pathology and clinical symptoms of the various types of goiter. One extensive chapter treats on the author's research work on the causes of goiter. The medical treatment of simple goiter is considered and the indications for operation in and the manifestations of thyrotoxicosis are considered in detail. The final chapters are concerned with the anatomy, chemistry, interrelation, pathology, and tumors



of the thymus gland. The numerous illustrations are well chosen. The text is unusually readable and the work of others in the field of goiter is discussed together with the author's own experiences. A voluminous bibliography is appended together with a large author and subject index. The volume is recommended to the general surgeon who wishes to perfect himself in the treatment of goiter and especially to the surgeon primarily interested in goiter. The volume is unusually comprehensive.

EMIL GOETSCH

**Diseases of Women.** By Ten Teachers under the Direction of Clifford White, M D. Edited by Sir Comyns Berkeley, Clifford White, and Frank Cook. Sixth edition. Octavo of 492 pages, illustrated. Baltimore, Wilham Wood and Company, 1938. Cloth, \$6.00.

This book is well known to the medical profession of England and the United States. The authors have such high standing in the gynecologic specialty in England that their work would be authoritative in any event.

This latest and sixth edition has been thoroughly revised and brought up to date. Especial emphasis may be laid on the excellent chapter on the physiology of menstruation, and the latest theories of the relation of menstruation and the endocrines.

All phases of diseases of women are covered in the volume, and a short paragraph at the end of each chapter gives the latest and most approved form of treatment.

The book is not a textbook on operative gynecology, but the usual gynecologic operations are clearly described.

As a textbook, and as a reference, this work will be an addition to the library of all those who are interested in this specialty.

WILLIAM SIDNEY SMITH

**The Life of Chevalier Jackson.** An Autobiography. Octavo of 229 pages, illustrated. New York, The Macmillan Company, 1938. Cloth, \$3.50.

We have pondered for many days in attempting to put down in words our impressions and reactions to a wonderful story of an illustrious man and famous physician.

In order to do justice to the author and his story, a review should really be a copy of the entire book. Dr. Chevalier Jackson sets a remarkable precedent as an author, as one follows with intense interest the unfolding of a life so rich and full in the manifold accomplishments and benefits to humanity. Fascinating indeed is the story of the life of Chevalier Jackson from his ancestry through the decades to maturity when the great edifice of accomplishments was so firmly constructed on a foundation built of material—hard work closely cemented by the sweetness and gentility of character molded by heritage, training, and study.

To the layman *The Life of Chevalier Jackson* is a novel classed with the best, to the physician, not only is this fruitful life a story but a pattern on which many have tried to mold, to the bronchoscopist, the author actually steps out of print and is viewed with respect and love, as the reader sees the master himself traveling hundreds of miles to lecture and teach his fellow physicians and thus all for the glory and welfare of man—the patient.

SAMUEL ZWERLING

#### ORDERING BOOKS

As a service to our readers, books listed in this issue or any other medical book in print may be ordered through T. H. McKenna, Inc., 878 Lexington Avenue, New York City. Phone BUtterfield 8-6603.

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

MARCH 1 1939

NUMBER 5

---

## *Editorial*

---

### Support the Lien Act

The Hanley-Mailler Act gives physicians no more than the vast majority of honest people would agree that they are entitled to receive. The lien bill does not guarantee payment for *all* emergency care or *all* treatment to victims of accidents. It merely gives the profession a means of collecting its bills when the patient actually receives cash to pay for medical and other expense connected with his injuries.

Awards for personal injuries are computed largely on the basis of medical expenditures and loss of income occasioned by the accident. There is no justification for failure to pay doctor bills when damages are granted, yet this is a common occurrence.

When a physician is summoned to attend an accident case, he does not stop to inquire into the patient's ability to pay. Very often, after he has given his service, he finds there is no likelihood of ever collecting a fee. All the more reason why payment of the doctor should be assured when the patient actually receives money for this purpose.

The law protects hospitals and lawyers against chiselers by granting them a lien on damage awards. The Hanley-Mailler Bill confers similar protection on physicians. Obviously the services of the latter are entitled to the same safeguards as attorneys' and hospitals'.

In the past few years physicians' lien bills similar to the pending one have failed of adoption in spite of the obvious justice of their provisions. The Legislature, like many patients, sees no need to hurry where the payment of doctors is concerned. There is much favorable sentiment for this legislation, however, and the Hanley-

Mailler Act stands a good chance if enough physicians get behind it and show they are behind it by letters, telegrams, and telephone calls to their representatives in Albany

### Some Legal Facts

Physicians of all political complexions are agreed in condemning the pending monopoly suit against the A M A. There is a general conviction, even among opponents of A M A policy, that this action is nothing other than a club to force the profession to accept compulsory health insurance.

In these circumstances the profession has no doubts of the ethical strength of its position. To many physicians who are wondering about its legal status, an article in the *Fordham Law Review* offers some enlightening facts. First of all, the article in question casts serious doubts on whether the practice of medicine comes within the purview of the antitrust laws. The Clayton Act specifically states that labor is not a commodity and reserves for it the right to organize for mutual help and assistance. In a case squarely in point, the courts have held that medical service is labor rather than a commodity. It does not seem, therefore, that medical practice comes within the scope of the antitrust laws, or that medical organization, any more than labor organization, can be considered in restraint of trade. This point of view is strengthened by the fact that the administration of medical care is a local and not an interstate act.

There are also explicit court decisions on the right of a medical organization to discipline members who violate its rules. "It has very constantly been held that the rules and bylaws are an agreement which (the member) expressly or impliedly accepts, and by which he agrees to govern his professional conduct. A society's only means of keeping erring members in line are censure, suspension, and expulsion. These weapons are legally recognized checks on straying members."

An extremely interesting and important feature of the article quoted is its disagreement with a recent decision of Justice Bailey in the United States District Court. Justice Bailey held that the Group Health Association of Washington, D C, is not practicing medicine. According to the writer in the *Fordham Law Review*, since the corporation, through its agents, gives medical treatments, it is in effect practicing medicine, for "it is generally recognized that a licensed practitioner of a profession cannot practice his profession as an employee of an unlicensed person or corporation, and if he does so the unlicensed person or corporation is guilty of practicing

that profession " The law does not divide the practice of a profession "into departments, on one side the actual performance of the professional services, and on the other, the business side." If the courts adopt Justice Bailey's ruling it will lay all professions, not merely medicine, open to the grossest form of commercial exploitation

As a matter of fact, the nonmedical implications of the case against the A M A are disturbing thoughtful persons in all fields If the government wins its suit against the A M A , not only will corporations be empowered to invade the professions, but the scope of the antitrust laws will be broadened to include almost every type of contract and every form of business and professional relationship The Department of Justice will exercise virtually unlimited power over American business and professional life

A hint of what might lie ahead is found in Assistant Attorney General Thurman Arnold's pronouncements on the monopolistic aspects of advertising Even more illuminating is his willingness, in the case against the A M A , to accept a consent decree "in the event that voluntary co operation results in constructive proposals *going far beyond the elimination of illegal practices* " As an editorial in *America's Future* observes, ' this is government by blackjack It substitutes Thurman Arnold for the Congress of the United States "

The outcome of the Administration's action against the A.M.A. is of prime importance to the entire people of this country, to industry and the other professions no less than to medicine As the *Fordham Law Review* article concludes, a decision adverse to the A.M.A. would radically upset all our concepts of the purpose and scope of antitrust legislation and alter the whole structure of industrial and professional relations with the public and the state

### Herpes from Vitamin B<sub>1</sub>

The public in general has become vitamin-minded " What with all the proud advertising claims of cough drops, candies, and even beer, vitamins are being consumed by the carload in the belief that only benefit can be derived from their use It is inconceivable that the vitamins, which are necessary in definite amounts for the maintenance of health and when deficient produce disease, do not also produce toxic phenomena when overabundantly present in the human body Therefore, the report of Steinberg's<sup>1</sup> observations on the untoward effects resulting from the use of large doses of vitamin B<sub>1</sub> is a timely one.

<sup>1</sup> Steinberg C. L. Am. J. Digestive Diseases 8: 630 (Dec.) 1933.

He has treated over 300 cases of chronic arthritis with various preparations of vitamin B complex together with vitamin B<sub>1</sub>, and in three of this number herpes zoster occurred during the course of treatment. That vitamin B<sub>1</sub> was the sole responsible factor was evident from the fact that in one patient herpes was made to recur upon resumption of the vitamin therapy. In other instances, Steinberg noted symptoms suggestive of smooth muscle spasm. These findings strongly suggest that unusually large doses of vitamin B<sub>1</sub> may produce an irritation of the peripheral nerve plates.

Clinically one should suspect such irritation when the patient begins to complain of burning pain in some portion of the skin. The use of the vitamin should be stopped, and after a period of time resumed only in smaller amounts.

Vitamin therapy, like all other forms of medication, requires medical supervision. Their use for self-medication should be restricted since an adequate diet furnishes the amounts necessary for normal metabolic activity. The need for supplemental vitamin dosage indicates a disturbance of metabolism which only a doctor can detect and manage properly.

## Sulfapyridine

Since the establishment of the efficacy of sulfanilamide in the control of streptococcus infections, biochemists have been hard at work to find a chemical preparation which would be equally effective in the pneumonias. Sulfanilamide itself has been found to have favorable action on Type III pneumonia.<sup>1</sup> Both bacteriostatic and bactericidal effects have also been reported on Types I, II, and IV.<sup>2,3</sup> From clinical observations, it appears that in the chrysoidin compounds we have a drug capable of controlling pneumonia.

Recently, sulfanilamide and pyridine have been synthesized and the resultant compound is known in England as Dagenan, here as sulfapyridine. The early investigations yielded promising results but unfortunately the cases of pneumonia subjected to this treatment were not typed. More has since been learned concerning the effectiveness and toxicity of sulfapyridine in various types of pneumonias.<sup>4,5</sup> Dramatic clinical results have been reported, but the use of the chemical seems to be attended with marked gastric discomfort even though it is about one-fourth as toxic as sulfanilamide.

---

1 Sadusk, *New Eng. J. Med.*, **219**, 787 (1938).

2 Britton, *Brit. J. Exp. Path.*, **19**, 140 (1938).

3 Rosenthal, *U. S. Pub. H. Ser. Reports*, **37**, 205 (1937).

4 Wein, *Quint. J. Pharmacy and Pharmacology*, **11**, 217 (1938).

5 Whitby, *Lancet*, **1**, 1,210 (1938).

At the present time, intensive studies are under way in all medical centers and, pending authoritative reports, sulfapyridine will not be available for general use. Studies of its value both in comparison to serum therapy and in conjunction with it are awaited.

### Current Comment

"Politics, politics and more politics would be the rule of each and every official and department of any federal or state organization, if compulsory health insurance is made a reality." Dr Clyde P. Dyer, writing in the St. Louis County Medical Society *Bulletin*, February 3, 1939

"If people generally would visualize medical societies as groups composed of their own personal physicians, there would in most instances be no need for further assurance that the interests of patients will always remain their first consideration

"Improved methods are needed in distributing medical care and no one realizes more fully than doctors themselves the peculiar requirements for providing adequate medical service." From the *Pittsburgh Medical Bulletin* in a recent issue

"There are many kinds of success (in medicine) and no one winner, and perhaps it is not so much where you come in as how you ran that matters." Dr Robert Hutchison, president of the Royal College of Physicians of London recently quoted in *Medical Record*

'A people thoroughly informed is a people armed against tyranny' said Mr Robert Lund at the recent meeting of the National Association of Manufacturers. While theoretically, knowledge

is power, the informed scientist as well as the educated proletariat may find themselves at a disadvantage before a well implemented group of politicians. The surest protection for the institution and practice of medicine is an informed public opinion. We believe a great deal more time, money and energy must be spent to acquire an enlightened and favorable public opinion at least for medicine. For public opinion, if not openly hostile at the moment, is at least inimical

"For this situation we have ourselves largely to blame. Medicine has not at any time courted public opinion. It has been secretive and reticent as to its aims and purposes. And people fear the thing they do not understand. The measure of our stupidity as physicians is our failure to educate the public to an understanding of the aims of medicine. The outlook for a reasonable and controlled public educational policy for medicine seems bright. As far as we can see, the only stumbling block is the physicians." The foregoing is from an editorial "The Public Will Decide," which we found difficult not to reproduce in its entirety. It may be found in the February *Westchester Medical Bulletin*

"To indulge in an immense new outlay of funds for public health such as can be financed only by depriving people of needed housing, food, and clothing is to apply merely palliative methods while aggravating the real causes of the malady." S. Q. Lapius, in the *Westchester Medical Bulletin* of recent date

# TOPICAL APPLICATION OF VITAMIN A

## Efficiency Judged by Growth Stimulation

WALTER H EDDY, Ph D , and JOAN L HOWELL, New York City  
(From the Laboratory of Physiological Chemistry, Teachers College, Columbia University)

IT is generally agreed that vitamin D may be absorbed through the skin and function in the correction of rickets when so administered. The question of vitamin A absorption is not so clearly demonstrated and the following tests were conducted to obtain definite evidence on this point.

Six series of tests are reported conducted at different time intervals during 1937 and 1938. In each series the rats used were first depleted of vitamin A by use of the U S P basal diet and started on the test only when the weight was less than, or equal to, that of seven days previous. In the topical applications, hair was removed from the back of the neck of the rat by clipping to expose an area of about one square centimeter, clipping done with care not to break the skin. The vitamin product was rubbed into the skin of this area and allowed to remain for a specified number of minutes (four minutes in all but the first series). During this period the rat was held and prevented from reaching the area with either front or hind paws. Before it was released the incision was washed off with soap and water.

Applications by mouth or incision were made daily for twenty-eight days following depletion.

## Experimental Data

*Series I* In this preliminary study six rats were used to determine the relative effect of two-, four-, and six-minute topical applications daily. In this series 2 of the rats failed to show any growth response and died of A deficiency. One showed a delayed response. A beta-carotene emulsion in a cocoa-butter base was used in this series.

Since in this series no advantage appeared from the longer period of application, we standardized succeeding tests at four minutes daily for topical application.

*Series II* In this series we contrasted the effect of feeding 0.24 mg beta-carotene emulsion in cocoa-butter daily with the same amount topically applied daily in the manner described in Series I (four-minute application). This amount of emulsion assayed 6 U S P units of vitamin A. The following were the results obtained.

The behavior of the "rubbed" group in this series showed conclusively that the vitamin A applied as beta-carotene emulsion topically did induce growth stimulation and must have been absorbed. The same amount by mouth induced greater growth effect, the ratio of body weight gain being 46.5/26.1.

TABLE SERIES I

| RATS   | TIME OF APPLICATION<br>Minutes | UNITS A DAILY | AGE AT START<br>Days | WEIGHT AT START<br>Gm. | LENGTH OF CLEARING PERIOD<br>Days | RAT WT WHEN APPLICATION BEGAN<br>Gm. | WEIGHT 7 DAYS BEFORE<br>Gm. | WT AT END OF 28 DAYS<br>Gm. | NET CHANGE IN WEIGHT<br>Gm. |
|--------|--------------------------------|---------------|----------------------|------------------------|-----------------------------------|--------------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 41561m | 2                              | 6             | 28                   | 45                     | 34                                | 130                                  | 130                         | died                        |                             |
| 41594f | 2                              | 6             | 27                   | 46                     | 34                                | 92                                   | 130                         | 138                         | +46                         |
| 41559m | 4                              | 6             | 28                   | 50                     | 35                                | 141                                  | 92                          | 124                         | -17                         |
| 41621f | 4                              | 6             | 28                   | 40                     | 33                                | 104                                  | 102                         | 120                         | 16                          |
| 41514m | 6                              | 6             | 28                   | 49                     | 34                                | 134                                  | 134                         | died                        |                             |
| 41560m | 6                              | 6             | 28                   | 40                     | 38                                | 106                                  | 86                          | 136                         | +30                         |

TABLE SERIES II\*

| RATS       | METHOD OF APPLICATION | U.S.P. UNITS DAILY | AGE AT START<br>Days | WEIGHT AT START<br>Gm | LENGTH OF CLEARING PERIOD<br>Days | RAT WT WHEN APPLICATION BEGAN<br>Gm. | WEIGHT 7 DAYS BEFORE<br>Gm | WT AT END OF 28 DAYS<br>Gm. | NET CHANGE IN WEIGHT<br>Gm |
|------------|-----------------------|--------------------|----------------------|-----------------------|-----------------------------------|--------------------------------------|----------------------------|-----------------------------|----------------------------|
|            |                       |                    |                      |                       |                                   |                                      |                            |                             |                            |
| 43125m     | Rubbed                | 0                  | 28                   | 40                    | 30                                | 115                                  | 118                        | 128                         | +13                        |
| 43195m     | Rubbed                | 0                  | 23                   | 50                    | 38                                | 121                                  | 123                        | 140                         | 25                         |
| 43122m     | Rubbed                | 0                  | 28                   | 48                    | 40                                | 121                                  | 124                        | 135                         | 14                         |
| 43448m     | Rubbed                | 0                  | 28                   | 45                    | 35                                | 116                                  | 119                        | 141                         | 25                         |
| 43377m     | Rubbed                | 0                  | 24                   | 43                    | 41                                | 133                                  | 136                        | 154                         | 21                         |
| 42858f     | Rubbed                | 0                  | 28                   | 43                    | 43                                | 100                                  | 113                        | 133                         | 27                         |
| 42234f     | Rubbed                | 0                  | 20                   | 47                    | 31                                | 99                                   | 99                         | 129                         | 30                         |
| 43089f     | Rubbed                | 0                  | 28                   | 45                    | 38                                | 114                                  | 116                        | 182                         | 38                         |
| 43618f     | Rubbed                | 0                  | 28                   | 44                    | 30                                | 103                                  | 104                        | 156                         | 53                         |
| 43587f     | Rubbed                | 0                  | 22                   | 46                    | 30                                | 117                                  | 118                        | 132                         | 15                         |
| Av (12-60) |                       |                    |                      |                       |                                   |                                      |                            |                             | 20.1                       |
| 43233m     | Fed                   | 0                  | 26                   | 43                    | 38                                | 120                                  | 121                        | 191                         | (71)                       |
| 43283m     | Fed                   | 0                  | 26                   | 49                    | 39                                | 138                                  | 139                        | died                        |                            |
| 43376m     | Fed                   | 0                  | 24                   | 44                    | 39                                | 170                                  | 126                        | 178                         | 52                         |
| 43419m     | Fed                   | 0                  | 28                   | 44                    | 35                                | 125                                  | 125                        | 181                         | 56                         |
| 43449m     | Fed                   | 0                  | 27                   | 44                    | 37                                | 114                                  | 114                        | 173                         | 59                         |
| 43247f     | Fed                   | 0                  | 24                   | 45                    | 42                                | 111                                  | 114                        | 147                         | 36                         |
| 43126f     | Fed                   | 0                  | 27                   | 40                    | 45                                | 104                                  | 108                        | 151                         | 47                         |
| 43452f     | Fed                   | 0                  | 27                   | 40                    | 33                                | 103                                  | 104                        | 140                         | 37                         |
| 43327f     | Fed                   | 0                  | 26                   | 45                    | 42                                | 114                                  | 115                        | 158                         | 44                         |
| 43614f     | Fed                   | 0                  | 28                   | 44                    | 35                                | 108                                  | 108                        | 149                         | 41                         |
| Av (12-60) |                       |                    |                      |                       |                                   |                                      |                            |                             | 46.8                       |
| 42634m     | Controls              | 0                  | 27                   | 43                    | 40                                | 136                                  | 136                        | died                        |                            |
| 42929m     | Controls              | 0                  | 28                   | 44                    | 32                                | 107                                  | 113                        | 103                         | -4                         |
| 42914m     | Controls              | 0                  | 27                   | 46                    | 39                                | 116                                  | 117                        | died                        |                            |
| 42183m     | Controls              | 0                  | 27                   | 47                    | 36                                | 113                                  | 115                        | 83                          | -30                        |
| 43196m     | Controls              | 0                  | 23                   | 43                    | 33                                | 118                                  | 119                        | died                        |                            |
| 42819f     | Controls              | 0                  | 28                   | 40                    | 29                                | 103                                  | 105                        | 105                         | 2                          |
| 42712f     | Controls              | 0                  | 28                   | 40                    | 42                                | 114                                  | 119                        | 99                          | -15                        |
| 43087f     | Controls              | 0                  | 28                   | 47                    | 29                                | 80                                   | 94                         | 94                          | 5                          |
| 42860f     | Controls              | 0                  | 28                   | 41                    | 39                                | 120                                  | 120                        | 94                          | -20                        |
| 43249f     | Controls              | 0                  | 24                   | 40                    | 40                                | 105                                  | 111                        | 110                         | 5                          |

\* See also Chart 1

In a feeding test run at the same time with 2 mg USP Reference Oil daily, we got the following gains 70, 62, 49, 49, 48, 48, 42, 34. Average for rats making 12 to 60 grams gain 45 grams. This indicated that we had actually fed 6 USP units daily in the 0.24 mg of the beta-carotene emulsion.

In the same period we got the following gains with 0.6 mg of USP Reference Oil daily 31, 31, 31, 26, 24, 23, 20, 20. Average 26 grams. From the growth response of the "rubbed" rats (average 26 grams) it would follow that the topical application of 6 units of beta-carotene A emulsion daily produced the growth effect of 18 USP units of vitamin A fed by mouth in form of USP Reference Oil. The ratio of 0.18 = 3.3. On this basis of comparison, the topical application was one third as efficient in growth stimulation as when the same amount of A source was fed by mouth.

Series III—This series was run to determine whether beta carotene in na-

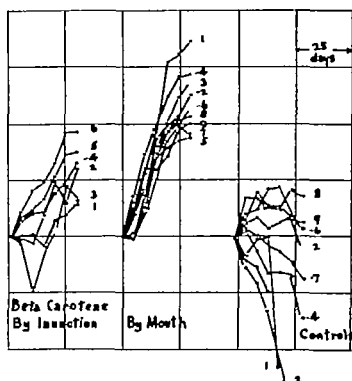


CHART 1 Contrast between the effect of beta carotene by mouth and by injection



TABLE SERIES III

| RATS   | EMULSIFIER | METHOD OF APPLICATION | UNITS A | AGE AT START<br>Days | WEIGHT AT START<br>Gm | LENGTH CLEAR-<br>ING<br>Days | RAT WT AT BEGIN-<br>NING<br>Gm | WT 7 DAYS BEFORE<br>Gm. | WEIGHT AFTER 28 DAYS<br>Gm. | NET CHANGE IN WT IN 28 DAYS<br>Gm. |
|--------|------------|-----------------------|---------|----------------------|-----------------------|------------------------------|--------------------------------|-------------------------|-----------------------------|------------------------------------|
| 44639m | Nat. Wax   | Topical               | 6       | 28                   | 40                    | 35                           | 106                            | 110                     | 120                         | +14                                |
| 44877f | Nat. Wax   | Topical               | 6       | 28                   | 40                    | 29                           | 95                             | 98                      | died                        |                                    |
| 44871m | Cocoa-B    | Topical               | 6       | 28                   | 40                    | 34                           | 96                             | 98                      | died                        |                                    |
| 44805f | Cocoa B    | Topical               | 6       | 25                   | 43                    | 29                           | 103                            | 103                     | 106                         | + 3                                |
| 44822m | Nat. Wax   | By mouth              | 6       | 26                   | 42                    | 29                           | 122                            | 122                     | 174                         | 52                                 |
| 44866f | Nat. Wax   | By mouth              | 6       | 28                   | 47                    | 28                           | 99                             | 103                     | 166                         | 87                                 |
| 44807m | Cocoa-B    | By mouth              | 6       | 25                   | 45                    | 30                           | 112                            | 114                     | 142                         | 30                                 |
| 44804f | Cocoa B    | By mouth              | 6       | 25                   | 45                    | 20                           | 95                             | 99                      | died                        |                                    |

tural waxes behaved the same as beta-carotene in cocoa-butter, the product being available in both forms. The test results were as follows:

From the viewpoint of the objective of the series it was evident that with natural waxes as emulsifier, the beta-carotene by mouth or inunction behaved quite as efficiently as in cocoa-butter. The series again demonstrated that for growth effect, feeding was more efficient than inunction, but that the topically applied vitamin was absorbed.

*Series IV*—In this series we repeated the test of beta-carotene but with the natural waxes as emulsifier. The results as affecting growth response are shown in the table below.

In this series again, feeding produced better growth than did inunction.

To determine the effect on the skin itself, we selected the following rats, removed a layer of skin from the back of the neck of each, and made a histologic study of sections of these skins. Rats

45813m and 45726f were killed on depletion to serve as *controls*, and to determine the degree of A deficiency in the skin at that time. Presumably, this represented the condition of all the rats at the end of the depletion period.

From the "rubbed" rats we selected 45551m, 45608f, and 45397f as representing rats which by growth response (47, 18, 22 grams, respectively, in 28 days) showed variation from good to low response. The 2 "fed" rats, 45381m and 45609f, were used. They differed also in growth response (64 and 23 grams, respectively). Rats 46142f and 46029f were rubbed with the waxes used in emulsifying beta-carotene, but not with carotene. As they lived through depletion, and twenty-eight days after, they represented still more severe deficiency than rats 45813m and 45726f, having been sixty-four and seventy-two days on an A-free diet.

Rat 45245m was added as a rat on the basal A-free diet only that had lived sixty-three days.

TABLE SERIES IV A

| RATS   | AMT A<br>UNITS | METHOD OF APPLICATION                       | AGE AT START<br>Days | WEIGHT AT START<br>Gm | LENGTH CLEAR-<br>ING PERIOD<br>Days | RAT WT AT BEGIN-<br>NING<br>Gm | WT 7 DAYS BEFORE<br>Gm | WEIGHT AFTER 28 DAYS<br>Gm                         | NET CHANGE IN WT IN 28 DAYS<br>Gm. |
|--------|----------------|---|----------------------|-----------------------|-------------------------------------|--------------------------------|------------------------|--|------------------------------------|
| 45332m | 6              | Rubbed                                      | 27                   | 42                    | 35                                  | 123                            | 125                    | 115  | -6                                 |
| 45395m | 6              | Rubbed                                      | 27                   | 45                    | 36                                  | 140                            | 143                    | died   | +47                                |
| 45551m | 6              | Rubbed                                      | 26                   | 44                    | 32                                  | 134                            | 136                    | 181  | -16                                |
| 45250f | 6              | Rubbed                                      | 25                   | 40                    | 42                                  | 103                            | 103                    | 85   | +18                                |
| 45608f | 6              | Rubbed                                      | 26                   | 48                    | 33                                  | 116                            | 118                    | 134  | + 2                                |
| 45397f | 6              | Rubbed                                      | 27                   | 41                    | 41                                  | 126                            | 129                    | 128  | +24                                |
| 45381m | 6              | Fed   | 28                   | 50                    | 32                                  | 117                            | 122                    | 181  | +23                                |
| 45609f | 6              | Fed   | 20                   | 45                    | 33                                  | 104                            | 104                    | 137  |                                    |
| 46474m | 0              | Rubbed with waxes used to emulsify carotene | 27                   | 41                    | 41                                  | 118                            | 118                    | died   | -21                                |
| 46142f | 0              |   | 28                   | 43                    | 36                                  | 113                            | 113                    | 92   | +20                                |
| 46029f | 0              |   | 28                   | 42                    | 44                                  | 113                            | 119                    | 133  |                                    |
| 45813m | 0              | Controls                                    | 27                   | 40                    | 33                                  | 116                            | 116                    | Killed to determine condition of skin at depletion |                                    |
| 45726f | 0              | Controls                                    | 28                   | 40                    | 39                                  | 106                            | 108                    |  |                                    |
| 45245m | 0              | Controls                                    |                      |                       |                                     |                                |                        |  |                                    |

TABLE SERIES IV B

| RATE   | DEGREE OF<br>SEVERITY OF<br>AVITAMINOSIS<br>A | METHOD OF<br>APPLICATION<br>OF A | WEIGHT<br>GAIN IN<br>23<br>DAYS<br>Gm. | UNITS<br>A<br>APPLIED<br>DAILY | AUTOPSY FINDINGS                |
|--------|---|----------------------------------|--|--------------------------------|---------------------------------|
| 45551m | Least (1)                                     | Rubbed                           | 47                                     | 6                              | No pus                          |
| 45608f | 2   | Rubbed                           | 18                                     | 6                              | Pus in tongue                   |
| 45377f | 4   | Rubbed                           | 2                                      | 6                              | Pus in tongue and ears          |
| 45381m | 3   | Fed                              | 64                                     | 6                              | No pus                          |
| 45609f | 5   | Fed                              | 23                                     | 6                              | No pus                          |
| 45813m | 6   | 33 days depletion                |  | 0                              | Pus in tongue                   |
| 45725f | 7   | 39 days depletion                |  | 0                              | Rt. eye badly affected          |
| 46029f | 8   | Solvents                         | +20                                    | 0                              | Both eyes badly affected        |
| 46142f | 9   | Solvents                         | -31                                    | 0                              | Both eyes, and pus in tongue    |
| 45345m | 10 most severe                                | 63 days depletion                | -81                                    | 0                              | Pus in tongue ears and left eye |

The above summary gives the outstanding features of the comparison

These results show that, in general, the skin in the rubbed area showed better recovery from depletion than skin from the same area in the fed rats with one exception. Also that in a group the rats gaining most weight showed best recovery.

**Series V—Carotene vs. Fish Oil A Absorption** In this series we contrasted the absorption of topically applied carotene vs fed carotene, with the absorption of similarly applied Fish Liver Oil A. The carotene used was beta-carotene emulsion in natural waxes of the American Chlorophyll Co. The A used was that of the American Research Products, 12 mg of the beta-carotene emulsion and 0.15 mg of A.R.P.I's A were used (equivalent to 30 USP units A) daily

These results indicate that both carotene and vitamin A were absorbable by

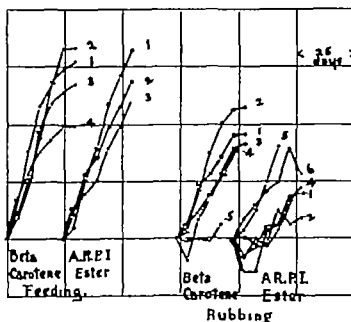


CHART 2 Contrast in the growth effect of carotene and fish oil vitamin A ester when fed by mouth and applied by inunction.

TABLE: SERIES V\*

| RATE   | FORM OF A  | METHOD OF APPLICATION | U.S.P. UNITS APPLIED | AGE AT START<br>Days | WEIGHT AT START<br>Gm. | LENGTH CLEARING<br>INCHES<br>Days | WT AT BEGINNING<br>Gm. | WT 7 DAYS PREVIOUS<br>Gm. | WEIGHT AFTER 23 DAYS<br>Gm. | NET CHANGE IN 23 DAYS<br>Gm. |
|--------|------------|-----------------------|----------------------|----------------------|------------------------|-----------------------------------|------------------------|---------------------------|-----------------------------|------------------------------|
| 45059m | Beta-C     | Fed                   | 30                   | 28                   | 41                     | 33                                | 112                    | 109                       | 165                         | 53                           |
| 45326m | Beta-C     | Fed                   | 30                   | 27                   | 44                     | 34                                | 100                    | 100                       | 168                         | 68                           |
| 45295f | Beta-C     | Fed                   | 30                   | 23                   | 44                     | 42                                | 127                    | 129                       | 184                         | 57                           |
| 45382f | Beta-C     | Fed                   | 30                   | 23                   | 47                     | 40                                | 130                    | 131                       | 170                         | 40                           |
| 45060m | A.R.P.I. A | Fed                   | 30                   | 28                   | 40                     | 42                                | 115                    | 125                       | 182                         | 67                           |
| 45410m | A.R.P.I. A | Fed                   | 30                   | 29                   | 45                     | 33                                | 106                    | 106                       | 162                         | 56                           |
| 45321f | A.R.P.I. A | Fed                   | 30                   | 27                   | 43                     | 37                                | 98                     | 99                        | 148                         | 50                           |
| 45327f | A.R.P.I. A | Fed                   | 30                   | 27                   | 41                     | 39                                | 82                     | 88                        | died                        |                              |
| 45329m | Beta-C     | Rubbed                | 30                   | 27                   | 48                     | 33                                | 96                     | 96                        | died                        |                              |
| 45411m | Beta-C     | Rubbed                | 30                   | 28                   | 42                     | 39                                | 91                     | 92                        | 123                         | 37                           |
| 45366m | Beta-C     | Rubbed                | 30                   | 23                   | 43                     | 36                                | 112                    | 112                       | 159                         | 47                           |
| 45294f | Beta-C     | Rubbed                | 30                   | 23                   | 44                     | 40                                | 106                    | 106                       | 140                         | 34                           |
| 45377f | Beta-C     | Rubbed                | 30                   | 28                   | 46                     | 36                                | 106                    | 106                       | inc.                        |                              |
| 45378f | Beta-C     | Rubbed                | 30                   | 28                   | 45                     | 41                                | 103                    | 106                       | inc.                        |                              |
| 45412m | A.R.P.I. A | Rubbed                | 30                   | 28                   | 40                     | 28                                | 87                     | 87                        | 104                         | 17                           |
| 45328m | A.R.P.I. A | Rubbed                | 30                   | 27                   | 41                     | 37                                | 100                    | 104                       | 97                          | -3                           |
| 45472m | A.R.P.I. A | Rubbed                | 30                   | 23                   | 49                     | 33                                | 139                    | 142                       | inc.                        |                              |
| 45330f | A.R.P.I. A | Rubbed                | 30                   | 27                   | 45                     | 39                                | 102                    | 109                       | 120                         | 18                           |
| 45062f | A.R.P.I. A | Rubbed                | 30                   | 28                   | 43                     | 43                                | 104                    | 103                       | 137                         | 23                           |
| 45399f | A.R.P.I. A | Rubbed                | 30                   | 23                   | 45                     | 44                                | 117                    | 117                       | inc.                        |                              |

\* See also Chart 2.

intact rat skin in sufficient amount to stimulate growth, but that the carotene was better absorbed than vitamin A is also indicated in this test.

That this was not due to difference of A unitage in the sources applied, is shown by the similar effect of the two sources when fed

## EXAMINATIONS—AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Application for admission to the Group A, May, 1939, Board examinations must be on file in the Secretary's Office not later than March 15, 1939

The general oral, clinical, and pathologic examinations for all candidates; Part II Examinations (Groups A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

Candidates for re-examination in Part II (Groups A and B), must request such re-examina-

tion by writing the Secretary's Office before April 1, 1939. Candidates who are required to take re-examinations must do so before the expiration of three years from the date of their first examination.

The annual dinner meeting of the Board to which all diplomats and candidates are invited, as well as their wives and others interested in the work of the Board, will be held at the Congress Hotel, St. Louis, on Wednesday evening, May 17, following the close of the examinations.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

## MEDICO-MILITARY PREPAREDNESS EXHIBIT

On Monday, April 10, 1939, there will be held at the Seventy-First Regiment Armory, in New York City, the second exhibit on Medico-Military Preparedness. This exhibit is being prepared under the auspices of the medical officers of the organized reserve of the metropolitan area. The committee in charge consists of Lt. Col. Edgar W. White, Col. Harry C. Saunders, secretary, and Col. John L. Kantor, chairman.

Among the exhibits shown by the regular army last year was the experimental four-wheel drive ambulance which can climb a forty-five degree grade with ease in rainy weather, the new ambulance body invented by the Research Laboratory at Carlisle Barracks, convertible so as to carry easily four litter cases or five ambulatory cases, an airplane crash outfit, and an arctic rescue unit. These contributions were demonstrated by regular army officers detailed from the Medical Field Service School at Carlisle Barracks, Pa. There will be a similar display this year.

The original exhibits made by reserve officers

included training planes of typical units and installations, administrative charts, tables, diagrams, models, sanitary installations, and war problems with their solutions. An interesting group of demonstrations illustrated the progress of a wounded soldier from the front line to the General Hospital in the rear. These items were prepared by medical, dental, and medical administrative officers of the Reserve Corps.

This year the exhibits by this group of officers promise to be still more numerous, interesting, and instructive. It is planned to have entirely novel presentations by veterinary and chemical warfare (gas) officers. The coming exhibit will be publicized so that not only all reserve officers but all National Guard officers and officers of the regular army stationed in the metropolitan area will be invited to attend. In addition, the exhibit will be open, as it was last year, to the entire medical, dental, and veterinary professions, to medical students and nurses, and to the general public. No tickets of admission will be required.

## AFTERPAINS

STUART B. BLAKELY, M.D., Binghamton, New York

**L**OWER abdominal pains after labor caused by intermittent uterine contractions are called "afterpains." Under the term "tranchees," French obstetricians have written of them in considerable detail. They are intermittent, are associated with visible and palpable uterine contractions as evidenced by hardening, rounding, and elevation of that organ, and are localized in the lower abdomen and (occasionally) the upper thighs, but rarely—possibly never—felt in the sacral area. It is not necessary to labor the point that they are caused by uterine contractions. In genesis and character they are like first stage labor pains, though usually of longer duration.

A study was made of 50 puerperal patients who recorded 1,529 afterpains—there were probably more. On the average, they began between five and six hours postpartum. Afterpains rarely begin immediately after labor, a patient's complaint of lower abdominal pain at that time should, until proved otherwise, be considered under some other and occasionally a more serious diagnosis. Their frequency was absolutely irregular, ranging from a few minutes to hours. It would seem that pain does not accompany every postpartum uterine contraction. The duration of the greatest number was between one and three minutes. Fifteen per cent lasted less than one minute (over half of this figure was furnished by 3 patients), 4 per cent lasted ten minutes or more, in 2 cases over thirty minutes. They rarely continued beyond forty-eight hours. A good yardstick for their severity is not at hand.

Afterpains vary from a vague discomfort to an unnerving agony, severe enough to induce even vomiting and shock. Not only do patients themselves present great variations in psychic reaction to pain in

general, but uteri, also, exhibit a wide range of sensitiveness and reaction to local and other stimuli—something not easily explained by such ignorance concealing terms as 'pain threshold' and 'adequate stimuli.' The fundus is the most sensitive part of the uterus and sometimes the slightest touch upon it provokes or augments afterpains. Less frequently, irritation anywhere in the genital tract, a full bowel or bladder, the taking of food or drink, or even turning in bed are initiating causes.

Afterpains are frequently started or made worse by suckling or any stimulation of the nipple. In some patients they occur only at that time, and are occasionally severe enough to make the woman dread or even refuse to nurse.

Afterpains are stated to be favored by exaggerated uterine distension, as after twins or polyhydramnios, long difficult labor, rapid labor with hard pains, premature separation of the placenta, large placenta, uterine atony (?), foreign body in the uterus, slight infection of the uterus (any infection more than slight stops them particularly streptococcal).

Finally, afterpains are rare in primiparae, but almost the rule in multiparae. This fact has been expressed by two axioms: (1) the greater the parity, the greater the pains; (2) a diagnosis of afterpains in a primipara is always doubtful—statements essentially though not entirely true. On close questioning a fair percentage of primiparae will admit to at least some lower abdominal discomfort for the first day or two postpartum caused by uterine contractions, which they ascribe to 'gas' or some mysterious 'normal' postpartum process. Multiparae occasionally suffer a great deal of pain after some of their labors, after others little or none at all. One X para claimed that

she had never had any pain after any of her babies. The causal factors in these variations are not easily identified. It is, however, entirely true that severe afterpains are rare in primiparae.

The foregoing comprises nearly all that is definitely known about the subject under discussion, i.e., afterpains. Two points are of outstanding interest: (1) the relation between nipple stimulation and afterpains, (2) the frequency of afterpains in multiparae, in contrast with their relative rarity in primiparae. Were these two satisfactorily explained, afterpains would present far less mystery. Thirty-three years ago Joseph Halban<sup>10</sup> wrote a remarkable paper bearing on one of these problems under the title "The Internal Secretion of the Ovary and Placenta and Its Significance for the Function of the Mammary Gland." It was almost prophetic, and the result of pure clinical observation and inductive reasoning. Few can hope to even approach the extent and thoroughness of his investigations or the brilliance of his logic. That article is still distinctly worth reading. The writer of the present paper wishes to subject the old accepted theories about the two phenomena above mentioned to a critical examination, and, on the basis of the study of the scanty literature and an analysis of afterpains occurring in 50 patients, to offer a more reasoned explanation for their occurrence. By no means does he claim to have all the answers, or to know all the factors involved. One of the most common, but obscure and neglected, postpartum complaints merits some study and thought. The conclusions must be somewhat speculative and not completely susceptible to scientific proof. This weakness is inherent in the nature of the subject.

### Nipple Stimulation and Afterpains

To properly approach the first problem, i.e., the relation between nipple stimulation and afterpains, it is necessary to speak briefly of the modern and intriguing theories of lactation.<sup>5,19,20,26</sup> The obstetrician is familiar with three

physiologic phenomena of the breasts and nipples.

1 The growth and development of the breasts during pregnancy. Estrin, produced by the placenta, provides the stimulus. This hormone is believed also to inhibit the pituitary (and possibly the breasts directly), and to sensitize the uterine muscle to "oxytocin," a general term applied to postpituitary secretion or other uterine stimulating substance. With the expulsion of the placenta the high level of blood estrin falls rapidly, and its restraining action on the pituitary ceases.

2 Lactation. Suckling causes the flow of milk from the breasts, if nursing stops, milk secretion also stops. There is ample experimental and clinical evidence that this action, both centripetal and centrifugal, is hormonal and not a nervous reflex.<sup>2,3,8,24,26,28,29</sup> Nipple stimulation produces in the breast tissue a hormone, still hypothetical, that is carried by the blood to the anterior pituitary. Acted upon by this breast hormone, the anterior pituitary secretes the well-attested galactin or prolactin which, carried in turn to the breasts, functionally stimulates milk production. The classic example in man was the pygopus female Blazek twins. One of them became pregnant, during the pregnancy the other twin menstruated till the eighth month, after delivery both twins nursed the child.<sup>5</sup>

3 The relation between suckling and afterpains—our first problem. It is a well-known clinical observation that mechanical stimulation of the nipples frequently causes or intensifies afterpains, i.e., uterine contractions. It is, of course, obvious that this is effected either through the nervous system, a nervous reflex, or through the medium of the circulating blood, a hormonal action. The usual explanation is a nervous reflex. There are two great and (to the writer) insurmountable objections to this idea: (1) the nervous pathways between the breasts and the uterus have never been traced, not even well guessed at, and (2) the time response, usually more than

two minutes, is longer than any known nervous reflex. It is also reasonably certain that all other growth and functions of the breasts are under endocrine control, and it is hard to believe that suckling produces one effect by hormone action and another through the nervous system. Finally, the only known method of stimulating uterine contraction is hormonal. The weight of evidence is for hormonal actions.

The possible hormones concerned in the production of afterpains by nipple stimulation are a postulated "mammin" from breast tissue, or an oxytocin from the pituitary or elsewhere. Mammin is stated to be antagonistic to estrin and postpituitary, but stimulating to the anterior pituitary. There is some evidence that mammary substance or extract has an inhibiting effect or influence on the ovaries and the uterine mucosa and causes the uterine muscle to contract.<sup>4</sup> There is a considerable literature (predominantly Italian) on the good results obtained with this preparation in uterine bleeding. One writer uses what he terms "automammization" through hot mud stimulation of the breasts in the treatment of this condition.<sup>5</sup> In favor of an oxytocin from the pituitary is the fact that suckling stimulates at least one portion of that gland, and also the fact that pituitrin is not only oxytocic but also has a markedly stimulating effect on milk expulsion from the breasts.<sup>6</sup>

To recapitulate—the production or intensification of afterpains by nipple stimulation, e.g., the act of nursing, is hardly a nervous reflex but probably the result of hormonal action. The source of the oxytocic hormone is possibly the breasts, but more likely the pituitary gland. It is, however, well to remember that there are still many large and important hiatuses in our knowledge of the endocrines. We yet do not know what makes the uterus contract, nor do we know that pituitrin or any other oxytocin is the cause of the onset or the continuation of labor.<sup>11,17</sup>

### Cause of Afterpains and Greater Frequency in Multiparae

Rhythmic uterine contractions are normal in all puerperal uteri, after all labors. They serve to empty the uterus, to prevent bleeding, to hasten involution, and to prevent infection. They represent a conservative process which is definitely aided by the good physiologic act of nursing. The older practitioners held that strong afterpains were of good prognostic significance because any serious infection in the uterus stops them, though slight infection seems to make them worse. We come now to our second problem. Why are these uterine contractions, normal after all labors and conservative in purpose, painful at all and why are they usually painful in multiparae and only rarely so in primiparae? The following conventional explanations are quoted from three well known obstetric textbooks.

Williams<sup>10</sup> 'In primiparous women the puerperal uterus remains in a state of tonic contraction and retraction, unless it has been subjected to unusual distension, or blood clots or other foreign bodies have been retained in its cavity, as a consequence of which active contractions occur in the effort to expel them. In the multiparous woman, on the other hand, the uterus has lost part of its initial tonicity so that persistent contraction and retraction cannot be maintained and consequently it contracts and retracts at intervals, the contractions giving rise to painful sensations which are known as afterpains.'

Irving<sup>12</sup> 'Afterpains are due to the presence of clots in the uterus and result from the contractions set up to expel them. They are more in multiparae because their uteri are more relaxed and a moderate amount of bleeding is more likely to occur.'

DeLee<sup>7</sup> 'Multiparae suffer more with painful uterine contractions than do primiparae. Occurring in the latter they give rise to the suspicion of infection or of the retention of clots or placental fragments in the uterus. They are due to lack of tonus of the uterine muscle.'

Let us combine these explanations into a series of statements upon which comment may be made, in agreement or in disagreement, or in calling their accuracy or plausibility into question

*Statement 1* Afterpains are caused by contractions of the uterus *Comment* With this there is complete agreement

*Statement 2* The primiparous uterus remains postpartum in a state of tonic contraction and retraction *Comment* This is *not* true, for *all* uteri, both primiparous and multiparous, exhibit rhythmic contractions and relaxations after labor. Incidentally, the process of retraction does not continue postpartum for the term implies the presence of something over which or from which to retract

*Statement 3* The postpartum multiparous uterus has lost part of its initial tonicity *Comment* There seems to be no question but that *all* uteri lose tone or tonus very rapidly after delivery. Antoine<sup>1</sup> has demonstrated this, and also that the uterus contracts very forcibly after labor, the amplitude of the contractions often being greater than at any other time of its activities. But there is no evidence, experimental or clinical, with which the writer is familiar, that the multiparous uterus postpartum shows greater loss of tone or less tendency to contract than the primiparous uterus, or that its contractions are less strong, or less firm or different in any way

*Statement 4* The alleged loss of tone allows more bleeding into the uterine cavity and the uterus is thereby stimulated to contract *Comment* Does any such bleeding occur? Do multiparae have more clots or more bleeding postpartum? Do multiparae with placenta praevia have less afterpains, because in that condition the chief bleeding area is not within the contractile portion of the uterus?

*Statement 5* Afterpains are due to the efforts of the uterus to expel blood, clots (particularly incriminated), or other foreign body *Comment* While it is true that most smooth muscle pain with which we are familiar is the result of muscular contraction against resistance, it is also

true that a normal hollow muscular organ, not in the presence of inflammation, expels its contents without pain unless it meets resistance or obstruction. Is the uterus an exception? What and where is the resistance in the birth tract that produces any obstruction? The lower uterine segment and cervix certainly offer no resistance during the usual period of afterpains. On the third day postpartum two fingers can be passed into the uterus. The expulsion of the placenta from the contractile portion of the uterus in the third stage of labor rarely seems as painful as most afterpains. Retained placenta and postabortal and postpartum intrauterine packing rarely cause pain severe enough to require their removal for that reason alone. Afterpains last longer than is necessary for the expulsion of a clot, and they cease gradually and not suddenly, as they would were an obstruction overcome. The frequency of the pains do not show a corresponding number of clots. Why does the blood not simply run out, why must it clot? Is the presence of clots, each time, the cause of the pains that so often follow nursing? Why do not ergot and pituitrin stop afterpains when the alleged clots are expelled, instead of making them worse for some time afterward? It is true, of course, that the expulsion of larger foreign bodies such as placental fragments and larger clots do cause pain though rarely severe, but in this case there is definite resistance due to their size.

The foregoing analysis seems to force the conclusion that the usual explanation of the cause of afterpains and their greater frequency in multiparae is inadequate, is wide open to criticism, and rests on traditional statements and not much scientific evidence.

Two modern viewpoints, the one physiologic and the other anatomic, seem to furnish the clue to a truer or better explanation.

1 The probable cause of pain in any contracting muscle, possibly not even excluding inflammation, is ischaemia of that muscle, whatever the cause of the ischaemia. This is the best explanation

of the pain of skeletal muscles under controlled experimental ischaemia, of intermittent claudication, of coronary thrombosis<sup>13 17 22</sup> Lackner<sup>14</sup> and Lubin have suggested this possibility in reference to uterine muscle. Mour,<sup>15</sup> in studying dysmenorrhea by intrauterine bag, demonstrated that, when the intrauterine pressure exceeded the systolic blood pressure, the patient felt pain in the uterus. We are not interested in the mechanism or chemistry of this phenomenon,<sup>13</sup> but in the fact that, to the best of today's belief pain occurs in an exercising muscle when it is deprived of blood.

2 There is considerable evidence that the structure of the uterus is profoundly altered by pregnancy.<sup>4, 21</sup> Grossly, multiparous uteri are thicker and harder. Anemia is the basal factor in involution and the blood vessels particularly the arteries, are the center of these changes. According to Goodall<sup>9</sup> the majority of the uterine arteries are obliterated postpartum, new vessels being later formed in these areas. In and about these areas are deposited large amounts of 'elastoid' material, preceded and followed by various types of degenerative processes. This so-called "pregnancy sclerosis" represents a permanent and characteristic change in the vessels of the uterus, and renders possible the differential diagnosis by the microscope between primiparous and multiparous uteri. It seems reasonable that these extensive changes result in a relatively poor circulation in the multiparous uterus. To this add the fact that all uteri are more or less "blood tight" directly postpartum. Consequently, uterine contractions of a given intensity, while not able to produce an ischaemia sufficient to cause afterpain in a primiparous uterus, would do so in a multiparous uterus.

To recapitulate Ischaemia of the uterine muscle is the probable cause of afterpains. Their greater incidence in multiparae seems best explained by the fact that the circulation in their uteri has been compromised by involutionary vascular changes in and about the blood vessels,

and a pain producing ischaemia is more easily induced.

Now a few miscellaneous things about afterpains, and finally and briefly their treatment. The greater frequency of afterpains following excessive uterine distension may be due to a more severe immediate damage to the intimate blood supply. The higher incidence of afterpains in the presence of uterine fibroids may be explained on the basis of local ischaemia, in or about the tumors, or because the fibroids stimulate the uterus to stronger contractions. The lag or delay in the appearance of the pains postpartum may be due to the possibility that the uterine circulation at first may be adequate to prevent sufficient ischaemia, or that the oxytocin has not yet been secreted in sufficient quantity. Why do afterpains cease after about forty-eight hours? The high estrin blood content during late pregnancy has sensitized the uterine muscle to oxytocin and it may be that, as the estrin falls, the uterus reacts less strongly to that stimulus.

Some interesting observations were made by several careful and intelligent patients among those studied. They noted that, at times, one or more of the following phenomena accompanied their afterpains, set down here in the order of frequency: (1) Increased vaginal flow—this is a common feature of afterpains which does not at all prove, however, that the expulsion of the blood or clots is directly from the contractile portion of the uterus, or that the increased flow means bleeding into the uterus from which it is expelled by that individual contraction, (2) gas, slight abdominal pain with rumbling and expulsion of flatus, (3) slight frontal headache—it is interesting to speculate if the headache so commonly complained of by puerperal patients might be of pituitary origin, due to increased activity of that gland, (4) nausea (5) desire to urinate, (6) desire to move the bowels. Four of these symptoms—gas, headache, desire to urinate, and desire to move the bowels—may be due to increased secretion of oxytocin. As might be expected, the more



# CLINICAL EXPERIENCES WITH SULFANILAMIDE THERAPY

## With Special References to Toxic Effects

REUBEN OTTENBERG, M D, New York City

(From the Mount Sinai Hospital)

THERE are two stages in the introduction of a new mode of therapy—the experimental and the clinical. After the fundamental experimental work has been done, each individual group of physicians has to learn from its own practical experience in what clinical conditions the drug is of use, which is the best mode of administration, and what are the accompanying dangers and toxic effects.

I have followed approximately 200 hospitalized cases treated with sulfanilamide. In addition to these a considerable number of cases have been studied and reported to me by colleagues in several of the specialties. From this experience I have been able to draw some definite conclusions. For statistical purposes this experience is of limited value because the number of cases of any one kind is small and because it was impossible, on account of the varied nature of the cases and the necessity for surgical or other forms of treatment, to assemble a series of suitable control cases. I shall present the experience of the group which I represent but my conclusions will be made with due reference to the literature. I have recently reviewed this literature in a paper before the Academy.\*

Sulfanilamide was introduced as a specific chemotherapeutic agent for hemolytic streptococcus infections. Further experimental and clinical trials showed that it had a wide, but peculiarly selective, effectiveness. Certain organisms are influenced by it while closely related organisms, for reasons which at present cannot be appreciated, are entirely unaffected.

The diseases in which the drug has been used may be divided into three general groups: (1) those in which it is

definitely indicated, (2) those in which it may sometimes be useful, and (3) those in which it is of doubtful or no use.

### CHART I

#### CASES IN WHICH SULFANILAMIDE IS CERTAINLY USEFUL

Acute Hemolytic Streptococcus Infections  
Streptococcus Meningitis  
Primary Streptococcus Peritonitis  
Erysipelas  
Streptococcus Septicemia from any source  
Puerperal Infections  
Colon Bacillus Infections—particularly of the Urinary Tract  
Meningococcus Meningitis and Meningococcemia  
Gonococcus Infections  
Undulant Fever (Brucellosis)  
Chancroid (Ducrey's Bacillus)

The most convincing demonstration of the therapeutic effect of sulfanilamide has been in *hemolytic streptococcus meningitis*. Our experience has been small but conclusive. All 4 of the cases of streptococcus meningitis of otitic origin treated by Dr. Maybaum in the last year have recovered. Also, in a fifth case in which a hemolytic streptococcus meningitis developed as a complication from accidental opening of the meninges in an operation for thoracoplasty, the drug was successful in curing the meningitis. On the other hand, in hemolytic streptococcus meningitis resulting from sinus disease, the results were not favorable. Two cases of this kind were treated and both died. Another case of hemolytic streptococcus infection occurring as a terminal event in a child with hydrocephalus was also unsuccessfully treated.

The difference in the therapeutic results in the cases of meningitis of otitic origin and those of sinus origin is possibly due to the greater ease with which the cases of otitic origin can be adequately drained by the surgeon. In all the meningitis cases sulfanilamide therapy was very intensive and protracted. The drug was given in large doses by mouth and in many of the instances it was also given

\*Delivered at a meeting of the New York Academy of Medicine, October 6, 1938

intravenously or subcutaneously. It was not used intraspinally but frequent spinal punctures for the relief of pressure were made. An attempt was made to maintain the concentration of sulfanilamide in the blood and in the spinal fluid well above 10 mg per 100 cc over a long period of time. We are in doubt whether this is necessary but it apparently did no harm.

The results in primary hemolytic streptococcus peritonitis were as good as those in hemolytic streptococcus meningitis. All 4 of the primary cases treated recovered. In 2 of the cases convalescent scarlet fever serum was also administered, but the impression from the prompt recoveries was that the sulfanilamide was the effective agent. It may well be that the combination of the two methods of treatment (a combination to which I refer again in the latter part of this paper) may be advantageous.

On the other hand, in 3 cases in which a hemolytic streptococcus peritonitis was a late complication of some other disease, the results were unfavorable and the patients died. One of these was a case of generalized tuberculosis with amyloidosis. Another was a case of post tonsillitis septicemia occurring in a patient twelve days after a gastrectomy. This patient apparently recovered from the general peritonitis but subsequently died from a residual subphrenic abscess. The third case was one of congenital syphilis in an infant with a complicating hemolytic streptococcus peritonitis. This instance might be regarded as a partial success since the peritoneum became sterilized long before the death by exhaustion of the patient.

In erysipelas our material is too small for conclusions but the clinical impression is extremely favorable. In 14 of the 16 cases there was prompt subsidence of the fever and cessation of the spread of the lesion under sulfanilamide therapy. In 1 of these cases it must be pointed out however, that the patient had done equally well on ultraviolet therapy alone in two previous attacks. Also, none of the cases was extremely grave or had

positive blood cultures. In all of these cases the dosage was moderate the blood level of sulfanilamide was generally brought up to only 2 to 6 mg per 100 cc. It is difficult to assess the value of sulfanilamide in our erysipelas cases because the results in previous years, before the introduction of sulfanilamide, have often been very good. However, the fact that all 16 cases recovered including 3 or 4 very young infants (in whom the high mortality of the disease is universally acknowledged) as well as prompt response to treatment in the majority of these cases, convinced the clinicians that the drug had been effective.

Of the septicemia cases those with sinus thrombosis offered the best opportunity for judging the effect of the drug. It is well known that with suitable surgical intervention the majority of these cases recover. There were 8 cases in the present series and 7 of them recovered. All of them, of course, received surgical treatment. In 2 of them it was the impression that the drug was undoubtedly of great help. The 1 who died was a very complicated case, having had Grave's disease at the time of infection, and was further complicated by suppurative sphenothmoiditis with localized meningitis.

There were 2 cases of very severe streptococcus septicemia from finger infections. Both of them ultimately recovered, and unmistakably as a result of the drug therapy. One of them a child of five years, also received 120 cc of scarlet fever convalescent serum. Both of them happen to illustrate an important point in the mode of administration of the drug (under which caption I shall refer to them again).

Besides the case of sinus thrombosis the only absolute failure of the drug in hemolytic streptococcus septicemia was in a young woman in whom the blood invasion resulted from an acute tonsillitis. She was intolerant of the drug which was therefore used only in restricted doses (less than 3 grams a day). I shall return to this case later in discussing toxic manifestations of the drug.

A related and most significant case was one of suppurative cervical adenitis complicated by *thrombophlebitis of the jugular vein*. The blood culture showed 500 colonies of hemolytic streptococci per cc. During two weeks the number of circulating organisms diminished progressively under sulfanilamide therapy but the clinical manifestations of sepsis persisted until resection of the internal jugular, subclavian, and innominate veins. After this the patient recovered. This case brings out the very important point (which was illustrated in many other cases) that a persisting focus not freely accessible to the circulation may be unaffected by sulfanilamide in spite of the valuable effect of the sulfanilamide on the general spread of the infection.

*Puerperal Sepsis* was the earliest and has been one of the most important clinical applications of this new chemotherapy. I have had the opportunity to follow only 1 case. In this instance high fever persisted for fourteen days in spite of sulfanilamide and then dropped suddenly when sulfanilamide administration was stopped. It is difficult to interpret this. The most likely explanation is that the sepsis subsided but that the fever was maintained by the sulfanilamide and this stopped abruptly when the sulfanilamide was stopped. This will be discussed under the heading of toxic effects.

There were 3 cases of *postlaborative sepsis* with positive blood cultures, 1 due to the *B. coli* and 2 due to the anaerobic streptococcus putridus (Veillon). The *B. coli* case recovered gradually. It is difficult to say whether the result was due to sulfanilamide or not. In 1 of the anaerobic streptococcus cases there was a prompt drop in temperature after two days of sulfanilamide therapy. In the other case, as in the postpartum case described already, there was no apparent effect on the temperature during sulfanilamide administration. It rose to  $105\frac{1}{2}$ °F the day after the drug was stopped and then dropped to normal in twenty-four hours and remained normal. Again it is difficult to interpret the

result. It is possible that an explanation similar to that offered in the case of postpartum sepsis may be valid.

In *meningococcus meningitis* the results reported in the literature have been extremely favorable. Our own experience consists of only 2 cases. In both of them the results were favorable. In both cases treatment for the first two days was limited to the administration of serum alone with no improvement. Further administration of serum was then stopped and both patients made a good recovery on sulfanilamide. In 1 of the cases the drug was given intraspinally as well as by mouth, but the intraspinal injections caused shock and were abandoned.

In *undulant fever* the results in the literature are increasingly favorable. Our material consists of only 1 case. In this case sulfanilamide was given approximately in the ninth week of the disease. A positive blood culture had been reported in the third week of the illness. The drug was given rather intensively, 330 grains in three days. The patient thereupon developed dizziness, disorientation, and an eruption on the face and neck. The administration of the drug was stopped. The temperature gradually came down to normal during and after the administration of the drug. While it is probable that sulfanilamide did exert a therapeutic (as well as a toxic) effect in this case, this is not certain since spontaneous improvement sometimes occurs about this stage of the disease.

The use of sulfanilamide in the treatment of *gonococcus infections* is very important. Dr. Lewis Mann has analyzed the results in 47 cases of gonococcus infection in the male treated in the outpatient department. Of the total cases there were 29 cures, 16 failures, an average of 60 per cent cures. The cures were obtained in chronic as well as acute cases. The average duration of treatment was twenty-eight days which is somewhat shorter than with previous methods of treatment. In all cases the drug was continued at least a week after the disappearance of the gonococci. The dosage

was small, usually 2 grams a day, and there were no serious reactions observed. In 12 additional cases sulfanilamide was tried as an irrigation solution exclusively without internal administration. Used in this way it was absolutely valueless. As the result of the failure of sulfanilamide treatment in 40 per cent of the cases, subsequent cases have been treated with a combination of the usual local treatment and sulfanilamide by mouth, since it is impossible to determine whether a given case will be influenced by sulfanilamide or not. This experience confirms that reported in the literature, except that the period of treatment in our clinic does not seem to have been shortened as much as in the case of other workers.

There were 2 cases of severe *gonococcal polyarthritis*. In neither of them was there a striking therapeutic effect. One patient (who also received a hyperthermia treatment while receiving sulfanilamide) was 1 of the cases (see below) which developed intense jaundice and a moderate grade of acute hemolytic anemia. It is possible that the addition of the hyperthermia may have precipitated the blood destruction.\*

**Chancroid**—Although I have not had the opportunity personally to follow any cases of chancroid under sulfanilamide therapy, Dr Kornblith,<sup>3</sup> who was the first to treat these cases with this drug, has given me the privilege of mentioning his series of 50 completely diagnosed cases with 100 per cent cures. Forty-nine of the 50 cases were cured within two weeks and the other case was cured within three weeks. The effect on the Ducrey bacillus is remarkable and specific. These cases with our best previous treatment usually dragged on from three months to several years.

**Miscellaneous Urinary Infections**—Since Helmholtz<sup>3</sup> showed it to be effective against the colon bacillus, *bacillus mucosus capsulatus*, and the proteus bacillus, the use of sulfanilamide in the treatment of urinary infections has become ex-

tremely important. In urinary infections the drug has been given in moderate doses, most commonly 30 grains (2 grams), occasionally 45 grains (3 grams), a day. This results in a sufficiently high concentration in the urine (60 to 100 mg per 100 cc). Dr Lewis Mann has been kind enough to analyze 49 cases of renal, bladder, and prostatic infections for me. The use of the drug locally as an irrigant is ineffective. It obviously works primarily on the organisms in the tissues, although it may have a sterilizing effect on the urine.

CHART II

URINARY TRACT INFECTIONS ACCORDING TO ORGANISMS

|                                    | CASES | CURED |
|------------------------------------|-------|-------|
| B. Coll                            | 20    | 22    |
| B. Proteus                         | 12    | 3     |
| B. Friedlander                     | 2     | 0     |
| B. Pyocyaneus                      | 2     | 1     |
| Staphylococcus Aureus              | 3     | 1     |
| Nonhemolytic Streptococcus         | 2     | 2     |
| Enterococcus combined with B. Coll | 3     | 1     |
|                                    | 52    | 29    |

The strikingly good results in the cases infected only with the colon bacillus confirm the experience of all who have written on the subject. The failure to cure most of the cases of *B. proteus* infection is contrary to the results reported in the literature and is hard to explain. Possibly more intensive dosage should be used in these cases. The results with all the other organisms are of little significance because of the small number of cases. Surgical measures used along with sulfanilamide may well have been responsible for cures in some of the instances.

The best results were obtained in cases of cystitis of which there were 33, 20 of these were cured. The results in prostatitis were also good, 7 cases with 5 cures. The results in renal infections were less encouraging, 9 cases with only 3 cured. In the presence of renal calculi there were no successes. Dr Mann was able to follow up many of the cases for long periods up to a year and found that in general if the mechanical conditions were satisfactory the cures were permanent. Four cases of cystitis and pro-

\* The combination of sulfanilamide and hyperthermia therapy has been recommended in gonorrhea by Balenger, Rider and McDonald.<sup>4</sup>

statitis were outstanding, all being infected with the colon bacillus and 1 of them having an enterococcus in addition. They were of 13 years, 8 years, 6 years, and 4 years standing and had been unsuccessfully treated with every conceivable form of therapy. They were treated with sulfanilamide and prostatic massage in 1937. The cures were prompt and when the patients were examined in 1938 the cures were found to be permanent. In general our urologists believe that the introduction of sulfanilamide has given them a higher percentage of cures in urinary infections than any previous form of drug therapy.

#### CHART III

CASES IN WHICH CLINICAL RESULTS ARE LESS CERTAIN  
BUT IN WHICH THE DRUG MAY BE OF VALUE

|  |                  |
|--|------------------|
| Acute Streptococcus Infections                     |                  |
| Tonsillitis  | Bronchopneumonia |
| Otitis   | Empyema          |
| Mastoiditis  | Cellulitis       |
| Sinusitis  | Adenitis         |
| Scarlet Fever                                      | Cholecystitis    |
| Pneumococcus Infections                            |                  |
| Urinary Infections with B. Proteus, B. Typhosus    |                  |
| Staphylococcus Aureus and possibly other organisms |                  |
| Gas Bacillus Gangrene                              |                  |
| Ludwig's Angina                                    |                  |
| Nonspecific Colitis                                |                  |
| Malaria  |                  |
| Trachoma   |                  |

Should one use sulfanilamide in every case of hemolytic streptococcus infection whether mild or severe? The question is an important and difficult one and the answer depends to a large extent on a consideration of the possible untoward effects of the drug. This I shall discuss in detail before the end of this paper. On account of these effects there is doubt regarding its use in the milder cases of streptococcus infection, this is a question for further clinical study before we can accurately demarcate where the line is to be drawn. This applies to such conditions as tonsillitis, otitis, and mastoiditis.

On the subject of *simple otitis* and *acute tonsillitis*, I cannot present any evidence because all the cases treated in the hospital were complicated by more serious diseases. Of 11 such cases of tonsillitis there were only 2 in which the clinicians felt that the result on the tonsillitis was prompt and striking. It is

very important that someone in a position to collect information accurately should make an intensive study of the results in tonsillitis and otitis, because the drug is being prescribed (often without bacteriologic control) in an enormous number of such cases in private practice.

Cases have been reported elsewhere in which *mastoiditis* subsided<sup>5</sup> with no other treatment than the administration of sulfanilamide, and trial of the drug would seem fully warranted in any case not showing urgent indications for operation. It is difficult to evaluate the results in our cases of mastoiditis because all of them were admitted to the hospital for the purpose of being operated upon. Of the 8 cases in which the drug was used there were only 3 in which the clinical impression was that the use of sulfanilamide had a decided influence in hastening recovery. One of these was a case complicated by an extra-dural abscess. Sulfanilamide may well have had a beneficial result in all the other cases but it is impossible from the nature of the clinical evidence to say so with certainty.

An important group of cases are those with *streptococcus bronchopneumonia* and particularly cases complicated by *streptococcus empyema*. There was 1 case of very severe and protracted bilateral streptococcus bronchopneumonia in an adult with recovery on sulfanilamide treatment. There were 8 cases of infected pleural effusions in which streptococci and a smaller or larger number of pus cells were found in the pleural effusion. Of these 3 recovered under sulfanilamide treatment, without operation. The other 5 cases either had such large effusions or were so toxic that it was not considered safe to avoid operation. Of these, 2 were extremely sick and the impression gained was that in these 2 cases the detoxifying effect of the sulfanilamide played an essential role in the recovery, even though operation was subsequently done. In one such case the empyema became sterile before operation was done. In the other 3 sulfanilamide may or may not have been of use.

There were also 2 cases of empyema complicating *putrid lung abscesses* in both of which in addition to anaerobes, hemolytic streptococcus was demonstrated. In both of them the impression was that the administration of sulfanilamide did have a salutary effect on the temperature curve.

*Miscellaneous forms of cellulitis* due to hemolytic streptococcus were treated by sulfanilamide in many instances. They were all subjected to the usual surgical therapy and in most of them it was impossible to draw definite conclusions as to the effect of the drug.

Sulfanilamide was used in only a few cases of *pneumonia*, because the clinicians were unwilling to give up serum in the types for which serum was available. It was used without serum in 3 cases of Type III pneumonia. Of these, 2 recovered, but it is difficult from the study of the temperature curves to decide whether sulfanilamide played a role in the recovery or not. In an additional case of Type III pneumonia the drug was administered simultaneously with Type III antipneumococcus rabbit serum and the patient recovered. This was a desperate case and it is difficult to decide which of the two methods of treatment was responsible for the rather rapid defervescence. Sulfanilamide was also tried in 3 other cases of miscellaneous types of pneumonia, IV, VII, and XI. Two of them died, 1 of them after the development of empyema. Our very small experience hardly justifies us in expressing any opinion of the use of sulfanilamide in pneumococcus infections.

*Pylephlebitis*—We have used sulfanilamide therapy in 3 cases of *suppurative phlebitis of the portal vein*. Two of these cases recovered.<sup>6</sup> A case with blood culture showing the Friedlander bacillus was fatal. Of the 2 cases which recovered 1 was proved by exploratory operation to be a typical case in which the infecting organism was the colon bacillus. The other case developed characteristic symptoms following an operation for infected hemorrhoids but as

the patient recovered the diagnosis was never confirmed by operation.

In *nonspecific colitis* trial with sulfanilamide is not illogical since the colon bacillus undoubtedly plays a role in the toxicity of many cases, even though the nonhemolytic streptococcus according to Bergen may also be an important factor. Dr Winkelstein who is studying these cases reports that 5 cases thoroughly treated with sulfanilamide showed no decided results. 2 of them showed transient subjective improvement. Since the introduction of soluble prontosil in tablet form for oral use under the name of neoprontosil, 4 cases have been treated following the dosage recommended at the Mayo Clinic.<sup>7</sup> It is too soon to speak of results but 1 case has shown remarkable improvement and 1 case, encouraging improvement.

#### CHART IV

CASES IN WHICH SULFANILAMIDE IS OF DOUBTFUL OR NO VALUE

Most forms of Infectious Arthritis  
Rheumatic Fever  
Staphylococcus General Infections  
Influenza Bacillus Meningitis  
Friedlander Bacillus Infections  
Putrid Lung Abscess  
Urinary Infections with Streptococcus  
Subacute Bacterial Endocarditis

On account of the adverse reports appearing in the literature there were very few trials with sulfanilamide in arthritis. I have records of only 1 case of *nonspecific infectious arthritis* and 1 of *rheumatic fever* treated with it. In neither case was there evidence of any therapeutic effect.

In 4 cases of *subacute bacterial endocarditis* the drug received a thorough trial with no effect on the temperature curve or the number of bacteria in the blood.

Sulfanilamide therapy was tried in 4 cases of *meningitis due to the influenza bacillus*. Two of the cases were treated in addition with anti-influenza serum intrathecally. All 4 cases died and there was no decisive influence on the course of the disease.

On account of the recovery of 1 case of influenza meningitis reported by Neal and Applebaum,<sup>8</sup> with a combination of

serum and sulfanilamide we believe that this combination should receive further trial. The drug was also tried in 1 case of *tuberculous meningitis* with a negative result.

*Staphylococcus Aureus Infections*—From the experimental work and the literature it is probable that sulfanilamide has little effect on *staphylococcus aureus* infections. On the 10 cases in which it was tried, 5 were local infections, carbuncles or cellulitis, and though all of these ultimately recovered it is uncertain, from the clinical course, whether the drug played any part. A sixth case was undoubtedly a septicemia following an axillary lymphadenitis, although no positive blood culture was obtained. The patient gradually recovered and we are likewise unable to express a definite opinion as to whether the drug played a role. In 2 of the cases of *staphylococcus aureus* septicemia following osteomyelitis the drug had no influence and the patients died. In a third case of *staphylococcus osteomyelitis* but without blood invasion there was a rather rapid drop in temperature and the drug may have had some effect.

In a case of *staphylococcus aureus* septicemia with cortical kidney abscesses and multiple lung abscesses all consequent on furuncles of the leg, the patient, previously regarded as hopeless, began to improve as soon as sulfanilamide administration was begun and made a complete recovery without operation. In evaluating this we must remember that such cases occasionally (though rarely) recover spontaneously.

In 1 case of apparent *thrombosis of the cavernous sinus* consequent on a furuncle of the nose showing a positive blood culture with *staphylococcus aureus* the patient made an astonishing recovery. This patient also received *staphylococcus* antitoxin. This is a disease from which recovery is extraordinarily rare.\* In spite of the failure of sulfanilamide generally in *staphylococcus* infections

the possibility must be held in mind that the drug may have a greater effect in human beings than in experimental animals. I believe it is worthy of a further trial.

*Ludwig Angina*—On account of recent reports of brilliant success in 2 cases of Ludwig's angina<sup>10</sup> in which the hemolytic streptococcus was the infecting organism, it is worth mentioning our 1 case of this disease in which the drug was used. The patient died. The majority of cases are due to anaerobes but a hemolytic streptococcus is sometimes also present and the drug seems worthy of trial in these desperate cases.

## Toxic Effects

### CHART V

#### I Common and Not Very Serious

- 1 Anorexia, nausea, vomiting, sense of oppression
- 2 Dizziness, somnolence, slight mental confusion
- 3 Acidosis, hyperpnea
- 4 Secondary fever
- 5 Secondary anemia
- 6 Moderate leukopenia
- 7 Scarlatiniform or morbilliform rashes (5 cases)

#### II Rare but at Times Dangerous

- 1 Disorientation or actual psychosis (4 cases)
- 2 Toxic encephalopathy—1 case (died)
- 3 Diplopia—1 case (transient)
- 4 Severe dermatosis—1 case (died)
- 5 Albuminuria (1 case)
- 6 Acute hemolytic anemia with hemoglobinuria, renal insufficiency, and jaundice (2 cases)
- 7 Hemolytic anemia with severe jaundice (toxic hepatitis) (4 cases)
- 8 Agranulocytosis (2 cases—1 died)

It is difficult to estimate the real degree of danger associated with the drug. The difficulty is that it has almost no ordinary toxicity in the sense of symptoms which can be relied on to appear with progressively increasing doses in human beings. Its toxic results in clinical practice are almost all in the nature of idiosyncrasies. People who tolerate a moderate dose usually can stand enormous dosage without further symptoms. On the other hand the few really serious toxic results come on often with lightning-like suddenness in persons who have had relatively small doses. This gives the physician a certain feeling of anxiety in instituting the administration of the drug and is a reason for the careful consideration of the indications in the relatively less dangerous types of disease.

*Cyanosis*.—The cyanosis which so often occurs is to be regarded as a normal ac-

\* MacNeal and Cavallo have reported a similar recovery with sulfanilamide in a case due to the hemolytic streptococcus.<sup>9</sup>

companionment of sulfanilamide therapy rather than as toxic manifestation. It occurs in all the cases which receive large doses and in many of those which receive small doses. It is harmless, is not accompanied by anoxemia, diminished oxygen carrying power of the blood, or dyspnea.<sup>11,12</sup> It is probably not altogether due to the methemoglobin which frequently is found in small amounts, but is caused in part by a staining of the red blood cells with a blue oxidation product of the drug formed spontaneously in the body. This substance can be demonstrated experimentally *in vitro* if a dilute solution (1-10,000) of sulfanilamide is exposed for one minute to ultraviolet light.<sup>13</sup>

Certain *subjective symptoms* which are not very rare are nausea, loss of appetite, occasional vomiting. These seldom interfere with the administration of the drug which can always be given parenterally if necessary. The same may be said of dizziness and slight mental confusion which a few patients complain of. This whole group of symptoms are seldom the precursors of more serious toxic symptoms.

In a few patients, however, the confusion goes on to a more serious mental state with disorientation, mania, or other signs of a toxic *psychosis*. We have had 4 such cases, 1 of them fatal. This was a man of 51, with bilateral pyelonephritis, in whom progressive toxic encephalopathy appeared two weeks after the sulfanilamide had been discontinued, it is possible that the death may have been due to cerebral softening from some other cause. There was unfortunately no post mortem examination. In the other cases the psychotic symptoms appeared during the administration of the drug and cleared up promptly when the drug was discontinued.

A *generalized skin eruption*, usually morbilliform or somewhat scarlatinan in character (in one case accompanied by vesicles and in another by bullae) occurred in 6 of our cases. In most instances it appeared after the drug had been given for a considerable time in

fairly large doses. In the majority of cases it was accompanied by a recrudescence of fever and disappeared in a few days when the drug was stopped. Usually the eruption does not need to be regarded as a serious complication of the disease.

The only instance in which the skin eruption was of grave significance was the case of streptococcus septicemia from tonsillitis already referred to. This young woman was very intolerant to the drug. She vomited after the first 35 grains ( $2\frac{1}{3}$  grams) and the drug was stopped. A week later she developed a measles like eruption. Because the septicemia was getting worse the drug was resumed, only 40 grains ( $2\frac{2}{3}$  grams) a day being given for four days. The eruption developed great intensity and acquired a bullous character and extensive lesions appeared in the mouth and throat. The patient died three days after the drug had been stopped. While the death was primarily due to streptococcus septicemia, the drug contributed an important toxic factor.

Because of the bullous character of the skin eruption in this case I was uncertain at the time if the eruption was due to sulfanilamide. But recently Dr B Kornblith has told me of a case of gonorrhea which under treatment with neoprontosil tablets developed an extensive rash resembling erythema multiforme and showing numerous bullae.

*Secondary Fever*—Another of the less grave toxic effects is the secondary fever due to the drug. There were a few such cases, it is difficult to say how many because the diagnosis was so often in doubt. In all of them the drug had been given a considerable time, one or more weeks, and the evidences of the original febrile infection were usually subsiding or had completely subsided, when a secondary rise of temperature occurred. In the cases which developed extensive skin eruptions, secondary fever was the rule. In nearly all instances the fever disappeared promptly when the drug was stopped. The chief importance of the fever lies in the difficulty in determining



whether the fever is due to the drug or to a recrudescence of the original infection

Another relatively minor complication of which I have no personal experience is *acidosis*. There were no pronounced cases of it on the adult services but Dr Jerome Kohn tells me that on the pediatric service many of the younger children receiving sulfanilamide showed mild grades of acidosis. The low  $\text{CO}_2$  combining power of the blood was formerly attributed to acidosis, but according to the more recent work of Hartman<sup>14</sup> it may be due to an actual alkalosis the result of hyperpnea which has to be regarded as a direct effect of the drug.

The two really dangerous complications of the drug are blood injuries, the *acute hemolytic anemia* and the *agranulocytosis*. The acute hemolytic anemia cases grade gradually into the jaundice cases which are apparently a milder form of the same hemolytic process.

I have seen 2 cases of acute hemolytic anemia of the severe type. The 2 cases showed an extraordinary resemblance to each other. Both were young men in whom the drug was taken for ordinary sore throats. In both the dosage was very small. In 1 case the total amount of drug given was between 2 and 4 grams, in the other the total amount was 2.3 grams of sulfanilamide by mouth and 4 cc of prontosil intramuscularly. In both cases there was a free interval of well-being with normal temperature lasting two days before the onset of severe toxic symptoms. Then with great suddenness began hyperacute diarrhea, vomiting of coffee colored fluid, hemoglobinuria, increasing jaundice, and rapidly progressing anemia. The blood hemoglobin in both cases fell to 32 per cent in spite of one transfusion in the one and four transfusions in the other case. There was a striking increase in leukocytes and in blood platelets (41,000 white blood cells and 1,100,000 platelets in one case) as well as marked outpouring of reticulocytes and nucleated red blood cells. The amount of urine decreased progressively in both cases and 1 patient had a complete anuria for twenty-four hours.

There was a marked nitrogen retention in both cases and the urine contained large amounts of albumin, red blood cells, and granular casts. Both patients were very desperately sick, in fact nearly died, but both did ultimately recover.

Of 4 cases of *jaundice*, the first occurred in a woman with a primary streptococcus peritonitis, the jaundice was relatively mild, was not accompanied by a severe anemia, and disappeared when the drug was stopped. The second was more severe, the hemoglobin dropped to 38 per cent, numerous nucleated red blood cells were seen in the blood smears, and transfusion was needed. In this case the original disease was saphenous thrombophlebitis and inguinal adenitis and the total dose taken was only 9 grams in five days.

The third and fourth cases were still more serious, they showed marked anemia but no hemoglobinuria. Both of them had repeated vomiting and were extremely toxic. The dosages of the drug which produced these cases were not very large.

In the third case, a man of 45 with gonococcus arthritis, the jaundice developed after a total dosage of 56 grams in two weeks. It appeared immediately after a hyperthermia treatment. The patient's hemoglobin dropped to 45 per cent and he developed profound jaundice with blood bilirubin of 3.8 mg, a normal total blood cholesterol of 225 mg, but cholesterol esters of only 37 mg per 100 cc. On blood transfusion and intravenous glucose he recovered.

The fourth patient, a man of 35, with a recurrence of a chronic prostatitis and pyelonephritis developed a very severe jaundice after receiving either  $6\frac{1}{2}$  or 9 grams of sulfanilamide. (The uncertainty is due to ignorance as to whether he took 5- or  $7\frac{1}{2}$ -gram tablets.) The toxic symptoms were so profound that for a while it was feared that he was developing an acute yellow atrophy of the liver. The icterus index reached 200. For a number of days the stools were acholic. There were heavy traces of albumin in the urine and 15 to 20 granular casts per high

power field The total blood cholesterol dropped to 111 mg and the hemoglobin to 55 per cent.

This patient was a chronic alcoholic and had had a mild attack of jaundice four years before. Although apparently well he is still (2½ months after the acute attack) slightly jaundiced with an icterus index of 15 and is probably developing toxic cirrhosis of the liver

In none of these anemia or jaundice cases was there any depressing effect on the leukocyte picture. On transfusion, liberal venous infusion, and high carbohydrate diet all of the patients finally recovered

*Leukopenia and Agranulocytosis*—There were a number of cases of moderate grades of leukopenia (4,000–5,000 or 6 000 white blood cells) with no striking changes in the differential blood count In all of these instances the drug was promptly stopped and it was never certain whether the leukopenia was due to the drug itself

There were 2 cases of true agranulocytosis. The 1 was a very severe case of otic sepsis complicated by sinus thrombosis and metastatic osteomyelitis He developed an extreme grade of agranulocytosis after having received enormous amounts of the drug The drug was stopped and with numerous transfusions he gradually overcame the agranulocytosis and after a long and complicated course is now slowly recovering

The other case of agranulocytosis developed in a man of 22 who had a bilateral bronchopneumonia due to pneumococcus Type VII, complicated by an acute pericarditis Because of the isolation of a hemolytic streptococcus from the sputum (on admission and before identification of the pneumococcus) he was given 6 grams of sulfanilamide during the first day When the pneumococcus was found the sulfanilamide was stopped and serum was given It was two weeks after the administration of the sulfanilamide that the agranulocytosis appeared It came on suddenly, there having been a normal blood count five days before. The patient died two days later in spite of blood transfusions and other therapy On ac-

count of the two weeks' interval between the rather small doses of sulfanilamide and the appearance of agranulocytosis in this case it is not absolutely certain that the agranulocytosis was due to the drug However, the clinical picture of agranulocytosis is always the result of degeneration of the bone marrow, when it occurs after other poisons such as benzol, salvarsan, or amidopyrine,\* there usually is a free interval which in some cases is of many weeks duration \*

*Albuminuria*—Because kidney damage is not mentioned in the literature as one of the toxic manifestations of sulfanilamide, I wish to record 1 case of marked albuminuria It occurred in a young woman with a very severe recurrent uveitis This was a case (as so often) of unknown etiology in which all possible foci of infection had been looked for without success. There was a normal urine examination immediately before sulfanilamide therapy was started After one week of sulfanilamide treatment there was a very marked (four plus) albuminuria Unfortunately the patient had been treated at the same time with intramuscular injections of boiled milk and it was impossible to be certain whether the albuminuria was due to the milk injections or to the sulfanilamide. Both forms of treatment were continued for a week longer and as the albuminuria persisted the sulfanilamide was then stopped. The milk injections were continued for another month At this time the albumin in the urine was found to be only a trace There was then a flare-up of the uveitis and the patient was put on sulfanilamide again (3 grams a day as previously) After four days of sulfanilamide the urine again showed three plus albumin and this time also showed a few red blood cells (1 to 3 per high power field in a centrifuged specimen) The sulfanilamide was again stopped and four days later the albumin had again dropped to a trace, although a few red blood cells were still present When seen a month

\* Since writing the above I have seen another fatal case of agranulocytosis It occurred after one week of sulfanilamide therapy for gonorrhea of the cervix uteri

later she still had a faint trace of albumin but no formed elements. At no time were casts seen, nor did the patient ever have an elevation of blood pressure or any other clinical manifestation of nephritis. With regard to the eye condition the patient was subjectively convinced that she had improved more rapidly than in her previous attacks, although the ophthalmologist who watched her was unconvinced of any unusual objective improvement.

*Reviewing all the toxic effects* there were three instances in which toxic manifestations may possibly have contributed to death: the case of skin eruption complicating tonsillar septicemia, the case of agranulocytosis complicating pneumonia, and the case of toxic encephalopathy complicating calculus pyelonephritis. There were 4 cases in which toxic blood destruction beyond a doubt nearly killed the patients. These were the 2 cases of acute hemolytic anemia complicating tonsillitis, the case of jaundice (subacute yellow atrophy of the liver in all likelihood) complicating pyelonephritis, and the case of agranulocytosis with sinus thrombosis. It may or may not be significant that 3 of these 7 most severe toxic cases occurred in instances of tonsillitis.

It is possible that my experience represents a somewhat one-sided picture of the frequency of toxic manifestations since (because I was known to be interested in the drug) I was usually asked to see the toxic cases, while a large number of cases under treatment which ran a normal course failed to come under my observation.

It is evident, however, that we are dealing with a treacherous drug—one which has enormous therapeutic value and therefore cannot be abandoned, but which nevertheless, on rare occasions, due to idiosyncrasies which have as yet no explanation, may develop the most destructive effects. In this regard sulfanilamide is in the same class as salvarsan and cinchophen. I feel, therefore, that in spite of the rapid and brilliant cures which can usually be effected, the physician should not be tempted to give the

drug for minor infections such as ordinary tonsillitis, otitis, and well-localized cellulitis. The need for watchfulness during administration of the drug is obvious. Ambulant patients should receive it only if they can be observed frequently.

*Mode of Administration*—In all cases where oral administration is possible it is the method of choice. In adults the tablet form is most convenient and in children the powdered drug can be administered in orange juice. When oral administration is not possible or when it is desired to give a very large dose within the first twenty-four hours, subcutaneous or intravenous administration of 0.8 per cent sulfanilamide or of prontosil can be substituted. Except in such emergencies intravenous use of the drug is to be avoided because it leads to rapid excretion and does not lend itself so readily to the maintenance of a high blood concentration of the drug set up as an objective of therapy by Marshall<sup>15</sup> and by Long and Bliss<sup>16</sup>. On the pediatric service on account of the greater tendency of infants or young children to acidosis the sulfanilamide when given by injection has been dissolved in Ringer's solution made alkaline by adding 0.6 per cent of sodium lactate. Fluids are administered freely to the patients except in the urinary infections when the amount of fluid is limited moderately in order to favor a high concentration of the drug in the urine.

*Dosage*—There is as yet no universally accepted standard dosage. We have generally adhered to that worked out by Colebrook and by Long and Bliss. The pediatric service, however, has usually given a proportionately larger dose, namely, 0.2 gram per kilo. This is almost 2 grams for every 20 pounds body weight, or about twice the usual dose for adults. Since we have had Marshall's method of determining the concentration of the drug in the blood and urine we have made the effort in the severer cases to keep the blood concentration up to about 10 mg per 100 cc of blood (1-10,000). In most of the milder cases we have been satisfied with a concentration of 3 to 6 mg per 100 cc.

In cases with any impairment of kidney function, moderation in dosage and the frequent use of the Marshall method to check up on the blood concentration of the drug are essential.

On the ear service the dosage has been very intensive and particularly in the meningitis cases the blood concentrations were kept to at least 15 mg. or more per 100 cc. It is not yet certain whether this is necessary, good results have been reported elsewhere from much smaller dosage. The only case in which it may have done harm was one of the cases of agranulocytosis already referred to.

On the genitourinary service the dosage has generally been much smaller than on the other services, usually a maximum of 3 grams a day for adults. This has generally produced sufficient concentration in the urine (75 to 100 mg. per 100 cc.) In all the departments the usual procedure has been followed of dividing the total daily dose into 4, 5, or 6 parts and giving it at uniform intervals during the twenty four hours so as to keep the concentration of the drug in the body as nearly as possible at a constant level. In all very severe cases such as meningitis and septicemia the effort has been made to bring the blood concentration up to the desired level in the first twenty four hours. This generally required either double dosage by mouth or the administration of the drug both by mouth and by vein.

During subsiding periods of infection the dosage is, as a rule, gradually cut down. It is always advisable to continue the drug for a variable period, at least for some days after the temperature has reached normal and the infection has subsided. This is particularly important in very menacing types of infection such as streptococcus meningitis in which the survival of only a few micro-organisms in the tissues might have a disastrous result.

There were very many instances in our experience in which the administration of the drug was stopped too soon and in which the disease recurred after an interval of a few days. In one such ex-

ample, a case of septicemia from a finger infection, it recurred twice and after the third plateau of fever sulfanilamide was continued for a month in order to make certain that there would be no recurrence.

Prolonged ingestion of sulfanilamide seems to be harmless. Some of our patients took it for months. Toxicity, if it occurs, usually occurs early.

Other methods of treatment should not be neglected because reliance is placed on sulfanilamide. There is experimental evidence that sulfanilamide and immune sera have a mutually intensifying (what Mellon<sup>10</sup> calls a potentiating) effect. In many of our most severe cases, scarlet fever convalescent serum (undoubtedly the most effective and widely valent serum for hemolytic streptococci) was used. For grave infections with meningococcus, pneumococcus, gas bacillus, influenza bacillus, or staphylococcus aureus the simultaneous use of sera seems wise.

In many of the cases supportive treatment with blood transfusion was used freely and was of the greatest value.

Precise bacteriologic diagnosis should be made in every case, but in a serious illness treatment often has to be started without waiting for the laboratory report. When the cultures show mixed infections and one of the germs is known to be susceptible to the drug (as in empyema due to anaerobes and hemolytic streptococcus, urinary infections due to colon bacillus and enterococcus) the results are often very good. Possibly in these cases the drug helps to suppress a symbiosis. In the sore throats of children accurate and rapid bacteriology is especially important. Many of these cases are due to the staphylococcus aureus and do not respond to sulfanilamide.

In occasional cases in which a bacteriologic diagnosis is not possible it may be justifiable to try sulfanilamide. We had one such case of very high fever (104 F. to 105 F. daily) lasting for 2½ months and defying every possible method of diagnosis. When the patient was almost moribund he was cured in a few days by sulfanilamide.

It is important in using sulfanilamide not to relax vigilance when the patient is doing well. It has happened to us repeatedly that while the temperature was coming down, or even after it had been normal for some time and all toxic symptoms had subsided, insidious localizations of pus or metastatic foci appeared.

Sulfanilamide seems to be most effective against micro-organisms which are rapidly spreading, are more or less free in the tissues, or are in the general circulation. It undoubtedly reaches closed cavities, such as nasal accessory sinuses and walled-off abscesses, but perhaps in lesser concentration. In these cases more prolonged treatment and, in most instances, surgical intervention, are necessary.

## References

- 1 Ottenberg, R. Bull New York Acad. Med., 14 453 (1938)
- 2 Kornblith B J A M A, 111 523 (1938)
- 3 Helmholtz, H F Proc. Staff Meeting Mayo Clinic, 12 244 (1937)
- 4 Ballenger, E G, Elder, O F, and McDonald H. P J A M A, 109 1,037 (1937)
- 5 Tixer, L and Eck, M Bull Soc. de pédiat de Paris 33 493 (1935)
- 6 Ottenberg, R and Berck, M J A M A, 111 1374 (1938)
- 7 Bannick, E G, Brown A E, and Foster, F P J A M A, 111 770 (1938)
- 8 Neal J, and Applebaum E Am J M Sc., 195 176 (1938)
- 9 MacNeal W J, and Cavallo M E J A M A, 109 2139 (1937)
- 10 Mellon, R R, Gross, P, and Cooper, F B Sulfanilamide Therapy and Bacterial Infections, C C. Thomas, publishers, p. 280
- 11 Marshall E K, Jr and Walzl, E M Bull Johns Hopkins Hosp 61 140 (1937)
- 12 Chesley, L C J Clin Investigation 17 44 (1938)
- 13 Ottenberg R and Fox, C L, Jr Proc Soc. Exper Biol & Med, 38 479 (1938)
- 14 Hartman H F, Perley, A M and Barnett, H L J Clin Investigation 17 465 (1938)
- 15 Marshall, E K., Jr Med Annals Distriet Columbia 7 5 (1938)
- 16 Long P H, and Bliss, E G Ann. Int. Med. 11 575 (1937)

## 1939 ANNUAL MEETING, ANNOUNCEMENT OF AN INNOVATION

At the forthcoming Annual Meeting of the Medical Society of the State of New York, the newly formed Section on Gastroenterology and Proctology will hold its first session and for its first day has decided to conduct a type of meeting new to our Society, but which has proved of interest in other similar organizations in the past few years.

The morning will be devoted to a Round Table discussion of subjects to be submitted in advance by any member of the State Society who expects to attend the meeting. A

round table group of speakers, consisting of two gastroenterologists, an internist, a surgeon, and a roentgenologist will discuss the previously submitted subjects in turn, supplemented by brief discussions from the floor. This type of meeting should provide an interesting innovation.

It will be much appreciated by the officers if members of the Society will send in questions for discussion either to the Chairman, Dr A F R. Andresen, 88 Sixth Avenue, Brooklyn, or to the Secretary, Dr John L Kantor, 145 West 86th Street, New York City.

## HEALTH INSURANCE FAVORED BY MILLIONS

Millions of Americans are interested in voluntary health insurance—according to a nationwide cross-section survey by the American Institute of Public Opinion, of which George Gallup is director.

The Institute's study, which comes after months of debate on the merits of health insurance by physicians, medical economists, and government officials, indicates that approximately 25,000,000 persons would be interested in paying as much as \$3 a month for complete medical and hospital protection, as reported in the *New York Times*.

This is a figure that many economists believe would be "the top" for guaranteed medical care.

Some existing insurance plans are providing such care for as little as \$2 a month.

If the cost were limited to this latter figure, the Institute survey indicates that approximately 32,000,000 persons would take advantage of it.

The survey indicates that the bulk of the potential customers for medical and hospital insurance comes from the upper and middle economic groups. They come, in other words, from those earning at least \$20 a week.

But a large group of Americans earning less than \$20 a week say the cost would still be too high, they could afford to pay only \$2 to \$3 a month, "if the whole family can be included for that."

# GENERAL PARESIS

## Biologic and Serologic Variants Affecting the Results of Treatment

BENJAMIN POLLACK, M D , Rochester

(*Senior Assistant Physician State of New York Department of Mental Hygiene Rochester State Hospital*)

IN CONSIDERING the results of any form of treatment, usually the organic and objective signs are considered rather than a survey of the entire individual—the product of his heredity and environment. There are individuals who are born of sound stock whom no acquired condition extrinsic or intrinsic, can apparently render psychotic. However, there are others whose mental equilibrium may be disturbed by any one of many conditions without apparent cause except the physiologic processes associated with puberty and adolescence, reproduction, and the menopause. It is now well recognized that fairly definite abnormalities of biologic psychodynamics can be discovered in a majority of cases. Between the two extremes of normal behavior and psychotic behavior may be found all gradations of mentality.

Every case of mental disease must be regarded as a biologic problem so that the study resolves itself into the accumulation of a knowledge of what the individual is born with—nature, and what has happened after birth—nurture. The former can be approximately probed only by a study of the individual's ancestry especially, together with a study of the immediate family history in both the direct and collateral lines by which many important facts relating to the transmission of a psychopathic taint may be discovered. It must also be borne in mind that this psychopathic tendency may be expressed in various types of manifestations such as neurosis, chorea, epilepsy, migraine, hypochondriasis, or it may be demonstrated by temperamental eccentricities such as undue optimism, depression, or by an "inborn" lack of moral sense or feeble will power. It may also be revealed by the frequency of crime, suicide,

or drunkenness in members of the same stock. It is not at all unusual to find both genius and psychopathic tainting in members of the same ancestry.

Inherited tendencies, of course, may be modified by proper nurture associated with a good environment with adequate suggestion and imitation, or they may be allowed greater play by exposure to poor companionship, unemployment, or temptations such as drink. It is exceedingly difficult to estimate the exact part which heredity plays in the production of the fixed psychotic types as we see them. There is, however, no doubt that certain types of mental disease may be transmitted with greater frequency than others such as manic depressive psychosis.<sup>1</sup> However, it would appear that the general rule is for the different types to appear in different generations.

It is, however, evident that nature, by intensifying the disease, crystallizes the unsound portions of the stock into one of the offspring. The latter, becoming psychotic, is frequently unable to propagate his stock. It seems that in this way nature tends to end or mend the degenerate stock although it is recognized that the psychopathic tendency may be revised in strains undergoing purification. Morel has held that in irritable cases, weakness, such as neurasthenia, may serve as a starting point for the degeneracy of the stock. Added to this unstable mechanism are other factors, i. e., alcoholic abuse, sexual excesses, ungratified sexual instincts, stress of city life, religious fervor, competitive examinations the imposition of celibacy on large numbers of men and women, and the physiologic conditions of sexual life whereby the maternal or paternal instincts are starved. Again, all forms of

TABLE I—ANALYSIS OF CASES OF GENERAL PARESIS ON A CHRONIC SERVICE

| Case | Age | Adm. | ON ADMISSION |                   |               | Reaction<br>Cell Count Type | FEBRUARY, 1937 |                   |               |                  | Con-<br>dition | Treatment  |
|------|-----|------|--------------|-------------------|---------------|-----------------------------|----------------|-------------------|---------------|------------------|----------------|------------|
|      |     |      | Wass<br>B S  | Colloidal<br>Gold | Cell<br>Count |                             | Wass<br>B S    | Colloidal<br>Gold | Cell<br>Count | Reaction<br>Type |                |            |
| 1    | 40  | 1929 | 4+4+         | 0001100000        | 1             | S                           | 0+0+           | 0000000000        | 0             | S                | U              | T B        |
| 2    | 35  | 1932 | 4+4+         | 1112110000        | 5             | S                           | 4+4+           | 5555551100        | 15            | S                | UD             | T B        |
| 3    | 54  | 1917 | 4+4+         | 0555542100        | 11            | S                           | 4+4+           | 5555543000        | 0             | S                | U              | T B (1 yr) |
| 4    | 54  | 1924 | 4+4+         | 5533311000        | 7             | M                           | 0+0+           | 0001111000        | 0             | M                | U              | M T B      |
| 5    | 48  | 1925 | 4+2+         | 0112110000        | 0             | S                           | 2+0+           | 0142221100        | 0             | S                | UD             | T B        |
| 6    | 50  | 1923 | 4+4+         | 5555222210        | 31            | S                           | 0+0+           | 0122200000        | 0             | S                | UD             | T B        |
| 7    | 39  | 1930 | 3+2+         | 0033211000        | 1             | S                           | 0+0+           | 0001210000        | 0             | S                | UD             | T B        |
| 8    | 45  | 1930 | 4+4+         | 5555110000        | 56            | S                           | 0+0+           | 0123210000        | 0             | S                | UD             | T B        |
| 9    | 52  | 1930 | 4+4+         | 5554332100        | 20            | S                           | 0+0+           | 0023100000        | 0             | S                | U              | T B        |
| 10   | 43  | 1930 | 4+4+         | 1224443311        | 15            | GC                          | 3+1+           | 0001100000        | 0             | M                | U              | N T B      |
| 11   | 39  | 1931 | 4+4+         | 1444554111        | 10            | GS                          | 4+4+           | 0002220000        | 0             | S                | UD             | D T B      |
| 12   | 52  | 1931 | 4+4+         | 5554410000        | 18            | GM                          | 4+4+           | 5554311000        | 0             | S                | U              | T B        |
| 13   | 28  | 1934 | 4+4+         | 5555321000        | 0             | S                           | 4+4+           | 5555422000        | 1             | S                | U              | N T B      |
| 14   | 45  | 1934 | 4+4+         | 5555543210        | 3             | SM                          | 4+4+           | 5555553100        | 0             | S                | U              | T B        |
| 15   | 50  | 1934 | 0+3+         | 0112210000        | 0             | C                           | 0+2+           | 0114310000        | 0             | SC               | UD             | T B        |
| 16   | 39  | 1934 | 4+1+         | 0011000000        | 0             | S                           | 4+0+           | 0012221000        | 0             | S                | UD             | T B        |
| 17   | 23  | 1929 | 4+4+         | 5555555421        | 22            | S                           | 0+0+           | 0112110000        | 0             | S                | UD             | 4 D B      |

S—Schizophrenic  
G—Grandiose  
M—Manic

C—Confused  
U—Unimproved  
D—Deteriorated or at a lower level

T—Tryparsamide  
B—Bismuth  
N—Neosarsphenamine

M—Malaria  
D—Diathermy

emotional stress, psychic as well as physical trauma, and depressive after-effects of various infectious diseases, may result in an exacerbation of a latent or dormant psychopathic taint in the previously sound individual.

The recognition of these facts is important, not only from the eugenic point of view, but also for an etiologic study of many of our so-called organic psychoses. While we recognize that organic diseases are not hereditary, we must realize that there is a survivance of the hereditary tainting in each individual which will be given fuller play if faced with obstacles or traumata of an infectious or non-infectious origin. Kraepelin has adequately stated that the people themselves, their mode of life, and their habits play an important role causing variegated modes of reaction to "psychic insults."

Out of the chaos and confusion of the interpretation of the results obtained of the treatment of syphilitic meningoencephalitis,<sup>2,3</sup> (general paresis) has come one salient point—namely, that no adequate study can be made of the various methods of treatment without a study of the affected individual's previous personality and the reaction type which he manifested during the initial psychosis and its subsequent course.<sup>4</sup> It is with this thought in mind that investigators today are gradually interpreting their results

from the standpoint of six chief personality divisions

1. Simple dementing
2. Schizophrenic
3. Manic or expansive
4. Depressive
5. Agitated
6. Confused

It is gradually becoming evident that the results of treatment depend upon (1) personality type, (2) age of onset, (3) early treatment, and (4) type of treatment.

Various workers, among them C W Hutchings as well as Hinsie,<sup>5-8</sup> have shown that the best prognosis occurs, as might be expected, in the confused, the manic or expansive type, and the depressed and agitated forms. The simple dementing types have the poorest prognosis. To illustrate some of the interpretive factors in the failures of various treatments of general paresis, a study was made of all the cases of this type present in one of the buildings caring for the chronic patients. Only cases which have had at least two years of treatment were included in this group. The majority of cases, however, had treatment for a much longer period and 1 has had continued hospital residency from as far back as 1917. All have had at one time fairly typical blood and spinal serology. However,

only the serology determined at this hospital is given in the statistical study. Practically all the patients have had at least 100 grams of trypanamide therapy intravenously as well as bismuth intramuscularly, while some have had malaria or other hyperthermic methods of treatment. A record was made of the personality type at the time of admission. The present serology obtained in February, 1937, is also given, together with their present mental condition. Of the 17 cases quoted it was found that 12 were described on admission as the schizophrenic type, 3 of a manic type, and 2 of a grandiose type. At present the condition of some of these patients is described as slightly improved but the majority are unchanged or worse. At present, 15 are of the schizophrenic type and only 2 of a manic type. Ten are described as definitely unimproved and 1 is unchanged (Table I).

The remainder are slightly more amenable to the hospital routine. Fifty other similarly treated chronic cases were studied in the same way with essentially the same findings. It is noted that many of the individuals showed schizoid trends while others showed a mixture of schizoid and the grandiose or manic tendencies. With no exceptions all these cases have now changed into a definite schizophrenic pattern. There did not appear to be any parallelism between the mental picture and whether or not the treatment had been continued or interrupted. Neither did the treatment with malaria or other hyperthermic methods appear to cause any change in the ultimate picture to any greater extent than that of trypanamide therapy alone. The serology in most of them was improved and in the majority of cases the increased globulin had disappeared as had the increased cell count. Table I is markedly similar to that of a serologic study shown in Table II, a group of much improved patients who are now at home. It is also interesting to note that 1 case (Table I, case 3) was admitted to another hospital in 1917 and to the Rochester State Hospital in 1919. Apparently at this time it was not

the custom to take a routine Wassermann except in a suspected case. Two years ago this patient had a convulsion following which he developed physical signs of taboparesis. The blood and spinal serology were shown to be positive. This case is interesting in view of the oft-quoted statement that general paresis, if not treated, is uniformly fatal within eighteen to thirty-six months after its diagnosis. Examining this patient's history in retrospect, it can be seen that the symptoms would originally have been diagnosed as general paresis had the serology been determined. However, at that time only his personality reaction grouping was determined and he was classified as a case of dementia praecox, paranoid type. Today, however, he still maintains a fair personality, although his general reaction type is still the same.\*

A review by Reed<sup>9</sup> of 230 cases of general paresis following malaria therapy is interesting from the serologic viewpoint. His findings more or less substantiate those previously made,<sup>17</sup> that the serology plays little or no part in the prognosis or interpretation of the results of the therapy. He presents a chart of 14 patients who had been paroled and who had apparently made a satisfactory adjustment at home. This is reproduced in Table II.

TABLE II

| ROSS-JONES<br>TEST | PANDY<br>TEST | CELL<br>COUNT | WASSER-<br>MANN<br>REACTION | COLLOIDAL<br>GOLD<br>REACTION | COL-<br>LOIDAL<br>GAM-<br>MAE<br>RE-<br>ACTION |
|--------------------|---------------|---------------|-----------------------------|-------------------------------|--|
| 1 Neg              | Neg           | 16            | +                           | 0011000000                    | 100000   |
| 2 Neg              | Neg.          | 60            | Doubtful                    | 0121000000                    | 100000   |
| 3 +                | +             | 18            | +                           | 0122000000                    | 200000   |
| 4 Neg              | Neg.          | 26            | Neg                         | 0011000000                    | 000000   |
| 5 +                | +             | 26            | +                           | 0011000000                    | 000000   |
| 6 +                | +             | 23            | ++                          | 0123000000                    | 100000   |
| 7 Neg.             | Neg           | 06            | Neg.                        | 0011000000                    | 000000   |
| 8 Neg              | Neg           | 06            | Neg                         | 0011000000                    | 000000   |
| 9 Neg              | Neg           | 03            | +++                         | 0011000000                    | 000000   |
| 10 +               | +             | 30            | Neg                         | 8534210000                    | 210000   |
| 11 +               | +             | 40            | Neg                         | 8543200000                    | 221000   |
| 12 +               | +             | 20            | Doubtful                    | 0022100000                    | 221000   |
| 13 +               | +             | 50            | +++                         | 8554820000                    | 221000   |
| 14 +               | +             | 53            | Weak +                      | 1122000000                    | 100000   |

A study of Tables I and II shows no essential differences in spite of the fact that the first table is the serologic study of

\* Since this paper was written, this patient died of general paresis confirmed by autopsy.



unimproved cases while the second is of those who would be placed in our improved or recovered group

From the first table it is quite obvious that the serology plays only a minor part in an evaluation of the methods of treatment. Seven of the 17 cases quoted have now a negative blood and spinal Wassermann and a negative or very slightly positive colloidal curve, and yet their mental status in the majority of cases is much worse than during the positive serology. In 3 cases there have been little or no changes while in the remainder there has been some improvement in the serologic picture but no improvement in the mental picture. The importance of the Wassermann test, especially the blood serology in neurosyphilis, is shown in Table III, taken from 250 cases of untreated late syphilis by DesBrisay.<sup>3</sup>

TABLE III

|                 | CASES | POSITIVE | PERCENT<br>AGE |
|-----------------|-------|----------|----------------|
| Visceral        | 18    | 18       | 100 0          |
| Latent          | 49    | 46       | 93 8           |
| Cardiovascular  | 20    | 17       | 85 0           |
| Osseous         | 19    | 16       | 84 2           |
| Cutaneous       | 22    | 18       | 81 2           |
| Mucous membrane | 10    | 8        | 80 0           |
| Neurosyphilis   | 144   | 47       | 41 2           |

It is quite evident from a study of this survey that there is a more or less natural tendency to a negativity of the blood in neurosyphilis. Stokes maintains that only 60-70 per cent of positive reactions may be expected in treated and untreated cases of late syphilis as it passes through a general diagnostic clinic. It is therefore evident that as a diagnostic aid in latent and late syphilis the positive blood Wassermann reaction alone leaves much to be desired and puts a premium on the clinical knowledge of the disease, making necessary, in addition, more complex diagnostic methods such as provocative procedures and spinal fluid examinations. However, it must be emphasized that serologic tests are no aid whatsoever in the prognosis or the progress of treatment. It is with this thought in mind that the results of treatment by various methods are evaluated. As might be expected, results of cases

treated early show the most hopeful signs. In a group of such cases reported from the Buffalo State Hospital,<sup>10</sup> over 50 per cent of the cases apparently showed a complete remission when treatment was instituted at least six months after the onset of the disease. In this study the personality factors are not mentioned. The results of treatment are based upon the improvement in the behavior pattern more than on the physical well-being. The following classifications are usually adopted

### 1 Complete Remission

Here apparently all abnormal psychotic trends have disappeared and the patient has returned to his former mental state. An additional criterion is that he has improved to such an extent that he is able to resume his former occupation or one of the same level. He must also be able to resume his former level in society. Should this definition of a complete remission be strictly adhered to, the number of cases falling into this group would be very small. It is difficult to estimate the previous level since most of the information must be obtained from members of the family or friends. In a similar way the behavior pattern after treatment is difficult to follow unless the individual is under the observation of a skilled psychiatrist most of the time, as little peculiarities which may be of vast importance are frequently dismissed as of no consequence by friends or relatives. It is also at times unfair to state that the person has not made a complete remission because he has been unable to return to his former position, since it must be recognized that patients as a rule are retained in the hospital for treatment for periods varying from one year to several years. This results in a difficulty in adjustment for a time. Also, because of present economic conditions it may be impossible to obtain a position equal to the former, especially if it is known that at one time he was in a hospital for treatment of the mentally ill.

### 2 Incomplete Remission

Here is included the large majority of patients who have improved enough physically and mentally to be able to engage in some type of useful occupation, either inside or outside of the hospital, but who have not improved to such an extent that they can return to their former occupations. There may be permanent defects such as lack of judgment or insight and also subsequent relapses. Another subgroup is a type which has made more physical gain than

psychiatric. This includes by far the largest number of patients in Table I in this article. The mental condition appears to be stationary for years although they are still in need of hospital care. As was quoted previously a large proportion of this group belong to the schizophrenic reaction type.

### 3. Unimproved

Here there is no improvement in the mental condition which becomes either slowly or rapidly worse in the same manner as may occur in cases which have had no treatment.

### 4. Death

Here death occurs during or shortly after treatment, frequently in a very malignant and rapid fashion.

The aims of the treatment may be briefly stated as relief of symptoms with an attempt to restore any individual to his usual standard or, failing this, to arrest or retard the process as well as to make the individual noninfectious. Serologic normality is only a byproduct of the treatment and not a guide to the value of the treatment. It is interesting to note that the two chief methods of treatment in vogue at present began in 1917 when Wagner Von Jauregg of Vienna published his first results with malaria and two other workers, Jacobs and Heidelberger of the Rockefeller Institute, first created an arsenobenzol compound called tryparsamide which had only a 25 per cent arsenic content but a low toxicity and a marked power of penetration into the nervous tissue. Since then a controversy has arisen as to the best methods of treatment. Analysis of results of the various workers must be viewed from several angles. There is always the personal equation to be considered, also varied opinions as to what constitutes a complete or partial remission. Since it is only recently that the results have been studied from the standpoint of reaction patterns, the factor of tissue destruction from old processes must also be considered. Statistics taken from literature of the last few years regarding the results of treatment therefore show considerable variations because of the numerous factors involved.<sup>11-14</sup> One worker reports results

of the malaria therapy alone in 100 cases and then compares it with another unselected group of 100 cases treated by both malaria and tryparsamide. This worker is in general agreement with other investigations in that he believes that the better results are obtained with the latter group. However, other workers report equally good results with various methods of artificial hyperpyrexia.<sup>15-17</sup> The feeling is present that results depend to a great extent upon the selected clinical material. No one at the present time knows what a course of tryparsamide consists of. Some feel the 60 to 70 grams are sufficient while others give as high as 300 grams or more. Similarly, we have no clinical basis for claims made that a fever of 102½° F for seventy hours will accomplish as much as a higher fever for a more prolonged period. One worker (Dr S L Warren, Rochester, N Y) reports very good results in untreated cases with the use of the prolonged higher fever therapy followed by no chemotherapy. Some clinics prefer immediate malaria treatment while others give initial course of tryparsamide followed by tryparsamide and malaria.<sup>18, 19</sup> Stokes<sup>20</sup> gives the following indications and contraindications for malaria therapy.

#### Indications

- 1 Early paresis and preparais in young robust persons
- 2 The same conditions in older patients without contraindications.
- 3 Presence of neurosyphilitic or other optic nerve disease contraindicating tryparsamide
- 4 Resistant nonparetic asymptomatic neurosyphilis (in late latency not early syphilis)
- 5 Where a reasonable trial of tryparsamide has failed (one year) and no contraindications to malaria appear
- 6 Optic atrophy (probably inferior to intraspinal therapy) and gastric crises persistent lightning pains when not otherwise contra indicated.

#### Contraindications

- 1 Decentralized inexpert control and inadequate facilities (not a practitioner's method)
- 2 Unsatisfactory strain of malarial organism.
- 3 Donor of same blood group as patient (Wagner Von Jauregg)

4 Old age Age limit should be based on physical status rather than years (probably not over 45)

5 Definite cardiovascular disease, especially coronary and myocardial and including arteriosclerosis

6 Pulmonary tuberculosis, latent or active

7 Chronic alcoholism

8 Marked diabetes (mild is not)

9 Severe anemia

10 Obesity

11 Persistent thymus

12 "Galloping" paresis

13 Advanced tabes with severe ataxia, decubitus, pyelonephritis

14 Pregnancy

15 Kidney disease.

16 Marked hepatic disease or insufficiency, or splenic disease

17 Severe debility

18 "Last stages"

## Discussion

### 1 *Advantages of Malarial Therapy*—

On the whole, probably the highest effectiveness, risks disregarded, of any single form of treatment for neurosyphilis, accomplishes much in a short time, institutional features control therapeutic flare-up without family and social difficulties, places responsibility and control in hands of experts, the best single chance for results in cases un-co-operative and difficult to control

### 2 *Disadvantages of Malarial Therapy*

—A "center" or institutional method for the experienced only, not always available, mortality 0.5 to 10+ per cent, temporary dislocation of occupation and economic status, some stigmatization, difficulty of maintaining safe strains of organism in small institutions, discomforts of stormy course, not adapted to the debilitated, complicated case

Reviewing the results obtained from malaria therapy in 60 cases of general paresis, Russman<sup>21</sup> reported 27.7 per cent complete remissions and noted that Raynor had reported a normal spontaneous remission of 3.5 per cent. There were 12.9 per cent of his patients who belonged to the group of partial remissions while 18.5 per cent were classified as improved. The unimproved group consisted of 22.2 per cent

He again shows that the serologic changes were not consistent with the clinical changes but demonstrated that there was a tendency to weaker Wassermann and Kahn reactions after treatment with a lessening of the cell count and a decrease in globulin. In most of his cases the colloidal gold curve dropped and became less typical. This was well shown in the writer's cases. It is interesting to note that a review of the literature shows a death rate varying from a fraction of a per cent to as high as 12 per cent in the series of 580 cases reported by Karnosh and Williams of the Cleveland State Hospital.<sup>22</sup> Kuhns<sup>23</sup> surveyed the present status of hyperpyrexial therapy in the various state hospitals in Illinois and his tables are herein reproduced (Tables IV and V).

TABLE IV—EVALUATION OF ARTIFICIAL PYREXIA IN 500 PATIENTS

| THERAPY          | PATIENTS PROVED | IM- UNIM |       |
|------------------|-----------------|----------|-------|
|                  |                 | PROVED   | WORSE |
| Typhoid vaccine  | 100             | 52%      | 28%   |
| Sulfur in oil    | 100             | 58%      | 21%   |
| Malaria          | 100             | 66%      | 20%   |
| Diathermy        | 100             | 72%      | 11%   |
| Electric blanket | 100             | 78%      | 15%   |

TABLE V—DIFFERENT METHODS OF FEVER TREATMENT AND RESULTS OBTAINED

| THERAPY          | PATIENTS PROVED | IM- UNIM |        | RE DIED |      |
|------------------|-----------------|----------|--------|---------|------|
|                  |                 | PROVED   | PROVED | LAPSED  | DIED |
| Malaria          | 96              | 68%      | 16%    | 4%      | 12%  |
| Sulfur in oil    | 60              | 35%      | 55%    | 0%      | 10%  |
| Electric blanket | 40              | 00%      | 28%    | 12%     | 0%   |
| Typhoid vaccine  | 27              | 74%      | 26%    | 0%      | 0%   |
| Combined forms   | 24              | 46%      | 42%    | 4%      | 8%   |
| Total            | 247             | 58%      | 30%    | 4%      | 8%   |

Hutchings<sup>6</sup> in a study of 182 cases reported 66 as much improved, 54 as improved, 62 as unimproved, and of the group 25 went home. He studied the personality type and found that 82 per cent of the confused type and 67 per cent of the depressed type had been discharged while only 20 per cent of the schizophrenic type or simple type were discharged following treatment with malaria and tryparsamide. It is interesting to note that in 56 of these cases the spinal fluid cleared up completely while in 72 it showed some improvement. However, in these groups less than

half were discharged. Paradoxically, in 19 cases in which the spinal fluid had not changed, 17 were discharged.

Paulian, Fortunesco, and Tudor of Bucharest<sup>24</sup> report the results of malaria in 100 cases. There were 40 per cent remissions, while 42 per cent showed some improvement.

Barnacle, Ebaugh, and Ewalt of the Colorado Psychopathic Hospital<sup>25</sup> report the results of the hyperpyrexia treatment of two series of patients. A group of 30 were treated with the Kettering hypertherm at a temperature of 105 F to 106 F for an average of 44.5 hours and 10.4 treatments per patient. In addition to this treatment each patient was given 2 grams of tryparsamide at the height of each fever and following the hyperpyrexial treatment, tryparsamide was given at regular intervals, in 3 gram doses. Another group of 30 was treated with benign tertian malaria. There was an average of 9.9 febrile periods per patient and an average number of 8.2 chills. These patients were later given neoarsphenamine and tryparsamide. In the first group treated by mechanical hyperpyrexia and tryparsamide, 70 per cent of the patients appeared benefited, while in the second group treated by malaria and tryparsamide, 64 per cent of the patients were improved. The results showing only a difference of improvement in 2 cases cannot be interpreted as favoring one method or the other.<sup>26-28</sup>

The various results quoted would indicate that there probably is very little difference in the results obtained by the various methods of hyperpyrexia, whether produced by malaria or by other types of hyperpyrexial methods, i.e., diathermy and heat cabinets. It is, however, felt that chemotherapy should be given following all the pyrexial treatments. A review of the literature would seem to indicate a consistent marked improvement when this mode of procedure is used.\*

## Summary

1 The results of various methods of treatment in neurosyphilis are difficult to evaluate unless viewed from the standpoint of personality patterns, the duration of the disease, and the type of treatments.

2 Hyperpyrexia and chemotherapy appear to be the most efficient present methods of treatment.

3 Serologic and clinical changes show no parallelism. The laboratory tests for syphilis should not be used as a prognostic indication or a guide to further treatment. In all cases the present accepted method of treatment should be carried out to the full extent, even if the patient has shown a marked clinical or serologic improvement before the treatment is called adequate.

4. A study of the cases of general paresis who have been in the chronic service of a State Hospital for at least two years after fairly adequate treatment shows a preponderance of schizophrenic reaction pattern types. It is also noted that the majority of these showed a schizoid trend at the time of admission.

1600 South Ave.

## References

- 1 Heredity in Mental and Nervous Diseases. Assoc. for Research in Ment. and Nervous Diseases.
- 2 Davidson, G. M. J. Nerv. and Ment. Dis., 84: 1 (1936).
- 3 Goldfader Phillip. Urol. and Cutan. Rev., July 1932.
- 4 Troeger Konrad: Ztschr. f. d. ges. Neurol. u. Psychiat. 150: 750 (1936).
- 5 Hutchings Chas. W.: Psychiatric Quart. 10: 1 (1936).
- 6 Cheney C. C. Ibid. 7: 1 (1933).
- 7 Hinsie, L. B. Syllabus of Psychiatry.
- 8 Hinsie, L. B. and Blalock, J. R.: Psychiatric Quart. 6: 190 (1932).
- 9 Reed B. J. of Neurol. & Psychopath., 13: 51 (1933).
- 10 Levin, H. L.: Psychiatric Quart. 9: 636 (1935).
- 11 Pollack, B. M. Rec., 1936.
- 12 Hamlin, P. G.: Virginia M. Monthly 60: 668 (1934).
- 13 Lorenz, W. F. Wisconsin M. J., 29: 372 (1930).
- 14 Mayne, B.: South. M. J., 28: 760 (1935).
- 15 Kusch, E.: Psychiatric Quart. 9: 642 (1935).
- 16 Freeman, W., Eldridge, W., and Hull, R. W. South. M. J., 27: 122 (1934).
- 17 Sokomon, H. C. and Epstein S. H. New York State J. Med. 31: 1,012 (1931).
- 18 Davidson T. W. Brit. M. J. 1 452 (1925).
- 19 Moore, J. E.: Modern Treatment of Syphilis, 1933.
- 20 Stokes, J. H. Modern Clinical Syphilology 1935.
- 21 Russman, Chas. M. Times and Long Island M. J. 62, 369 (1934).
- 22 Karnosh, L. I. and Williams G. H.: Ohio State M. J. 31: 193 (1935).
- 23 Kuhns R. H.: Arch. Phys. Therapy 17: 161 (1936).
- 24 Paulian, D. Fortunesco C. and Tudor M.: Bull. Soc. de Fac. de Bucharest 1: 98 (1930).
- 25 Barnacle, O. H., Ebaugh F. S., and Ewalt J. R.: J.A.M.A. 107, 1,031 (1930).

\* Since this article was written Dussik and Wortis, co-workers of Sakel, have indicated that favorable results might be obtained by treating these cases with hypoglycemic shock after initial malaria and tryparsamide treatment. They mention schizophrenic types of general paresis which have improved under this treatment.

26 Krusen, F H M Record 140 248 (1934)  
 27 Branche G C J Nerv & Ment. Dis, 83 177  
 (1930)

28 Epstein, N N, and Cohen M J A M A, 104  
 883 (1935)  
 20 Pollack, B Medical Times August 1937

## A HOME VIEW OF THE CITADEL

The award of the highest American honor for a 1938-made film in the English language to the production adapted from Dr A J Cronin's "best seller" has naturally a special interest for the medical profession, remarks *The British Medical Journal*, because of the predominantly medical implications of the plot. Exactly how far, if at all, the author of the book intended his work of fiction to be regarded as a tract has been the subject of widely differing views.

The public greedily absorbed the notion, probably fostered by the publisher and his advertising agents, that it was meant as a genuine and savage satire on "Harley Street" and all its ways—by which term they understand the whole body of London consultants, regardless of the fact that the geographical area in question houses types of practitioner as far asunder as the poles in scientific distinction and in devotion to the public weal.

The public was probably wrong, just as Dr Cronin would not pretend to have produced a literary masterpiece or an important work of propaganda. He is first and foremost a storyteller—and at the moment has few superiors in that craft in England, and in *The Citadel* he used his medical training and experience to aid him in telling a story which has had a most remarkable success. Fiction is not evidence on oath, and we cannot demand of a medical novelist that he shall subordinate his plot or his "local colour" to accuracy in matters of detail.

The main fault with this very readable book was the way in which the exceptional was over-emphasized so as to make it appear the usual. When the film magnates, in their turn, commission a producer to turn a novel into a talking film, their aim is neither instruction nor political propaganda but the more commercial aim of amusing and interesting their patrons, these

include all classes, and among them the unsophisticated are in an immense majority. It is box-office returns, not art or literature, or education or social betterment, that the film industry is after, whether in the process the public gets right or wrong impressions on this or that subject is of small importance compared with the financial results, which in turn depend on tickling the ears (and eyes) of the groundlings.

Thirty years or more ago one remembers that Mr Somerset Maugham (a medical man) put on the stage a scene in which a young consulting physician in "Harley Street," hard put to it because his practice was very meager, contemplated scattering orange peel on the pavement outside his rooms in the hope of getting some sprains or broken legs to treat as a result. The playwright, of course, had his tongue in his cheek, as the medical members of his audiences knew, but the rest of the world saw nothing abnormal in the incident. Similarly, the film version of Dr Cronin's book abounds in glaring and much more serious medical solecisms, which will go unperceived by the laity, though his professional brethren detect them easily enough.

The question is not whether this film is well produced and well acted, but whether it gives a distorted view of medical life and medical morals, and, if so, how far it is calculated to lower our profession in the eyes of the public. Its qualities as a film are a matter for cinema critics, they have been discussed in all the lay papers and do not much concern doctors as doctors. In our view declares *The British Medical Journal*, *The Citadel* film, apart from its absurdities, gives a false impression of British medicine and British doctors, which in the long run will do harm unless the public regard it merely as entertainment. Anything that lowers prestige by so much lowers confidence, and confidence is the chief element in the doctor-patient relationship.

## TIME TO KICK

Our businesses, our recreations, our everyday existence, our every move, almost, have all been subjected to regimentation. But we should kick,

and kick plenty, when our lawmakers try to subject even our health and physical well being to regimentation.—*Goshen (N Y) Independent*

# CARCINOMA OF RECTUM AND COLON

## Early Diagnosis and Treatment

FRANK C. YEOMANS, M.D., F.A.C.S., New York, N. Y.

### Symptoms

THE colon is divisible into two segments, right and left, which have different embryology, anatomy, and function. The right colon, as far as the middle of the transverse colon, together with the small intestine, is developed from the midgut, its blood supply is from the superior mesenteric artery which is the artery to the midgut, and its function is digestion and absorption. The left colon, left half of transverse, splenic flexure, descending and pelvic colon, is derived from the hindgut, and is supplied by its artery, the inferior mesenteric. The function of the left colon is storage and propulsion of the fecal column.

These differences in origin and function give rise, in general, to different sets of symptoms which vary with the situation of the neoplasm and the extent of involvement.

Early symptoms are usually vague but have serious import.

*Carcinoma of Cecum and Ascending Colon*—As the bowel lumen is largest in this segment of the colon and its contents liquid, an early, small tumor may give few or no symptoms unless it encroaches upon the ileocecal valve. Discovery of a tumor by the patient or examiner may be the first sign.

Discomfort for several months in the right lower abdomen is the chief early complaint in 90 per cent of patients. Recurring attacks of pain frequently lead to the erroneous diagnosis of subacute or chronic appendicitis. The appendix had been removed without benefit in 15 of 100 cases studied by Priestley and Bergen.<sup>1</sup> Reflex disturbances to the upper portions of the digestive tract causing anorexia, fulness after meals and eructations, frequently divert attention from the primary lesion. Diarrhea and

constipation are not characteristic and gross bleeding is seldom observed. However, in advanced lesions anemia, weakness, and loss in weight may suggest pernicious anemia until the blood picture of secondary anemia directs attention to the right colon.

*Transverse Colon*—Due to the narrower lumen of this segment and its more formed content, intestinal colic and pain, relieved by the passage of gas or feces, is a characteristic early symptom. With increasing involvement, constipation is progressive and is an important symptom in persons of previous normal bowel habit. Complete obstruction is prone to supervene, especially when the annular constricting growth is at the splenic flexure. The latter is seldom palpable but a mid colon tumor, which may be felt early in 50 per cent of cases as a movable mass, may later involve the stomach in a rather fixed tumefaction and cause severe gastric symptoms. Bleeding and anemia occur in about 20 per cent of cases. Massive hemorrhage was the initial symptom in a man, age 52, whom I saw with cancer of the transverse colon.

*Descending Colon and Sigmoid*—Disturbance of motor function occurs in three fourths of the cases. Progressive constipation is usual with periods of diarrhea in about 20 per cent, less often alternating constipation and diarrhea. Later, obstruction develops with classic symptoms. Pain of some type is usual, manifesting itself at first as discomfort in the left lower quadrant of the abdomen and radiating across to the right side. Rectosigmoidal involvement usually ends in stenosis evidenced by abdominal distention, borborygmi, frequent small bowel evacuations and reflex digestive disturbances. Gross blood in the stool occurs in

50 per cent or more of cases. Anemia and weight loss are less than for neoplasms of the right colon. A tumor of the descending colon, especially in a stout person, is rarely palpable but approximately one-third of those in the sigmoid can be felt. The error of diagnosing feces impacted above an obstructing tumor as a neoplasm is rather common.

**Rectosigmoid and Rectum**—The earliest symptoms are constipation, bleeding, and discomfort in the rectum. Onset of obstinate constipation in a person of cancer age, urgency to defecate on rising in the morning, with no result or only the passage of flatus and blood-tinged mucus, or a vague feeling that something is radically wrong in the lower abdomen, or a feeling of fulness and obstruction in the rectum, occurring separately or in combination, form a symptom-complex that is present in nearly every case of carcinoma of the rectosigmoid or rectum. A tumor in the large rectal ampulla may be virtually "silent" until far advanced. Tenesmus occurs only with neoplasms situated low in the rectum. Indigestion, anemia, and weakness are not characteristic of the early stages of malignancy of the distal bowel.

In summary. The symptoms of early malignancy of the colon are vague—for the right colon "indigestion," abdominal unrest, intestinal colic, and secondary anemia, for the left colon, progressive constipation, spurious diarrhea, gas pains, and gross rectal bleeding. The symptom-complex of carcinoma of the rectosigmoid and rectum is distinctive.

## Diagnosis

Error in diagnosis of colonic lesions, as proved by operation or autopsy, ranges from 20 to 40 per cent.

The two chief reasons why there is an average interval of six to eleven months after the earliest symptoms until the patient with cancer of the large bowel comes under treatment are first, failure of the patient to obtain competent medical advice until the growth is far advanced, as evidenced by pain, bleeding or obstruction, and, second, omission of a thorough

examination by the physician first consulted.

The *periodic health examination*, especially after the fortieth year, should include palpation and endoscopy of the terminal bowel. Early cancer would thus be discovered and the precancerous adenomata detected and destroyed before they had undergone malignant degeneration.

The early symptoms noted, when elicited while taking a complete history of the patient, should impress the clinician with the possibility of cancer.

Unfortunately, several other organic lesions of the large bowel give symptoms and signs simulating malignancy. Notable among these are nonmalignant tumors, appendiceal abscess, bleeding internal hemorrhoids, segmental cicatrizing enteritis, chronic ulcerative colitis, diverticulitis, lymphosarcoma, and the specific granulomata, i.e., tuberculosis, syphilis, amebiasis, actinomycosis and venereal lymphogranuloma.

## Examination

It is essential that the physical examination be methodical and in the following order:

- 1 General and abdominal. In women, vaginal examination should precede rectal palpation to determine the size, position, flexion, and mobility of the uterus, and the state of its adnexa, the condition of the rectovaginal septum, and to detect pathology in the pouch of Douglas.

- 2 Digital palpation of the rectum, which detects practically 100 per cent of rectal carcinomas. As a result of neglect of this simple procedure, many patients are treated for months for "dysentery" or "bleeding piles" without having a proper examination. From 10 to 18 per cent of patients with carcinoma of the rectum or rectosigmoid have been treated or operated upon for hemorrhoids within the period of active cancer symptoms. The peritoneal culdesac should always be palpated. Detection of induration at this site frequently indicates a hopeless metastasis from a carcinoma higher in the

abdomen, usually of the stomach or colon

3 Proctosigmoidoscopy reveals ulcerative lesions, strictures, benign and malignant growths of the rectum and, in about 75 per cent of cases, similar lesions of the distal pelvic colon. Material is obtained for smears and cultures and biopsy specimens are taken when indicated. Failure to pass the tube through the rectosigmoid is usually due to an angulation caused by adhesions of the sigmoid or an organic obstruction—stricture, neoplasm, or diverticulitis—the nature of which can frequently be determined by the endoscopy.

4. Roentgen ray study. The data obtained by sigmoidoscopy should be given to the roentgenologist before his examination. The x-ray cannot and should not be expected to demonstrate ulcers, small benign tumors, or early carcinoma of this difficult bowel segment situated within the bony pelvic girdle which is so accessible to direct inspection. However for the colon proper, fluoroscopy and roentgenography with the barium enema is the most valuable diagnostic procedure for detecting carcinoma and other lesions of the colon or excluding them from the picture.

5 Laboratory. Routine laboratory tests may include (a) urinalysis, (b) routine blood picture and type, (c) Wassermann test of the blood for syphilis, (d) sedimentation rate, (e) Frei antigen skin test for venereal lymphogranuloma in suspicious cases, and (f) examination of feces for gross and occult blood, parasites, and ova.

#### Differential Diagnosis—Right Colon

The clinical course may greatly aid in the differentiation of the commoner conditions of the right colon, although the co-existence of multiple lesions must be kept in mind.

In carcinoma, weakness, weight loss and secondary anemia are progressive.

The roentgen filling defect is usually irregular and its margins definitely rough.

Hyperplastic tuberculosis has a predilection for and frequently involves a long

stretch of the ileocecum and ascending colon, and occurs especially as a secondary manifestation of pulmonary tuberculosis in persons under the 'cancer age' of forty years. Of 66 cases reviewed by F. C. Herrick, 54 (82 per cent) occurred before the fortieth year. Hyperplastic tuberculosis has a protracted course, thus contrasting with the steady progress of carcinoma.

Actinomycosis of the abdomen is rather common in some parts of Europe and in the northwestern section of the United States. In New York City the disease is so rare that it may not be suspected and the correct diagnosis not be made until the chronic inflammatory process is far advanced, and then only by biopsy, at operation, or at autopsy. During the six-year period (1929-1935) the records of the Department of Health of the City of New York show only 9 cases of actinomycosis, only 1 being abdominal. The 2 cases I have seen were (1) a girl, aged 19 years, with involvement of the appendix and rectum, and (2) a man, aged 32, with primary involvement of the cecum and secondary abscess formation in the right lobe of the liver and the right hemipelvis. Cecal actinomycosis tends to invade the anterior abdominal wall and form more fistulas. The course is chronic, with febrile after secondary infection has occurred. Discovery of the specific actinomycotic granules in scrapings from a sinus or clutches the diagnosis.

Frequently appendectomy is performed in tuberculosis and actinomycosis of the cecum, the true nature of the process being discovered only after a fecal fistula formed several months later.

Localized calcifying ileitis is a tender tumefaction in the right quadrant, is marked by nodular epistodes resembling acute appendicitis and usually presents a characteristic roentgenogram—a narrow, rigid, men of the terminal ileum.

An amebic granuloma of any segment of the large intestine for its shorter duration frequently mimics carcinoma.



this erroneous diagnosis resections have been performed, nearly always with fatal issue. Roentgenograms do not show the clear-cut picture of carcinoma. From my experience with 4 cases of amebic granuloma, 1 of the transverse colon and 3 of the rectum, I feel convinced that proctosigmoidoscopy is invaluable in obtaining from the pathognomonic ulcers material in which the specific amebas may be demonstrated on the warm stage of a microscope, thus establishing the diagnosis.

*Localized lymphosarcoma* often presents a baffling picture of intestinal colic and obstruction, without bleeding. When this condition is suspected, deep roentgen ray therapy will temporarily shrink the lymph nodes, ameliorate symptoms, and thus suggest the true nature of the lesion.

*Appendix*—Either of two pathologic conditions of the appendix may produce a tumefaction. One is a large, thick, retrocecal appendix, frequently tuberculous, adherent to the posterior abdominal wall, the other an appendiceal abscess, enlarging slowly, with or without slight rise in temperature and leukocytosis. In either instance the patient is usually younger than the patient with cancer.

### Differential Diagnosis—Left Colon

In the left half of the colon, *diverticulitis of the sigmoid* is the chief organic lesion to be differentiated from cancer. The obstructive and other symptoms are much the same, but gross bleeding is rare in diverticulitis unless cancer coexists. There is a slight rise of the evening temperature and moderate leukocytosis, and the tumor is not fixed unless it has fused by inflammatory adhesions into the anterior abdominal wall or the bladder. The x-ray study shows a spindle-shaped filling defect, due in part to spasm, and usually shadows of extra-luminal diverticula which confirm the diagnosis.

The occurrence of cancer in patients beyond the fortieth year having diverticulosis or diverticulitis is not unusual. The coexistence has been observed in from 4 to 30 per cent of operated cases.

The association seems to be coincidental and not causal. The x-ray and proctoscopy are our chief reliances for their recognition.

*Hyperplastic Tuberculosis*—The site of the lesion in the 100 cases collected by Lockhart-Mummery was cecum or cecocolon, 90, whole colon, 4, sigmoid, only 6. No tuberculous foci were found elsewhere in 76 of these cases, but the lungs of 18 showed tuberculous lesions. The majority of cases develop between the twentieth and the fortieth years of life. The correct diagnosis of hyperplastic tuberculosis of the sigmoid is seldom made before surgical intervention to relieve obstruction or for the removal of a tumor, presumably malignant.

### Differential Diagnosis—the Rectum

As regards carcinoma of the rectosigmoid and the rectum, two outstanding facts are not fully appreciated. First, the neoplasm is in a field accessible to both palpation and inspection, and, second, that approximately 75 per cent of rectocolonic malignancies involve this bowel segment.

Our statistics at the New York City Cancer Institute illustrate well the segmental incidence of carcinoma of the digestive tract as determined by the accurate diagnosis on discharge. For the years 1931-1937, inclusive, the patients discharged numbered 4,673.

Alimentary canal involvements were esophagus 148, stomach 484, cecum 16, colon 46, sigmoid and rectosigmoid 78, rectum 360, anus 4, a total of 1,136. Of the 500 malignant neoplasms of the large bowel, 360, or 72 per cent, were in the rectum.

This predominant incidence of cancer in the accessible terminal bowel places a grave responsibility upon the clinician for its early detection or the discovery of other lesions giving rise to similar symptoms. A carcinoma of the rectum is felt on digital palpation as (a) a polypoid, intraluminal growth of small or large size, at onset movable with the rectal mucosa, and relatively benign in that few or no

lymph nodes are involved, (b) a crater like excavated growth with an indurated, ulcerated base and nodular margins, infiltrating the musculature and permeating the lymphatics early, and (c) an annular constricting growth with indurated base and nodular margins, rather definitely limited to the bowel wall and tending to produce early stenosis, especially in the rectosigmoid

These details of size, position, mobility or fixity of the tumor, its involvement of adjacent organs and metastasis, are all prime factors in determining operability and prognosis

Direct inspection through the proctoscope reveals the findings of palpation which in doubtful cases are confirmed by biopsy

Unless they can be extruded, *bleeding internal hemorrhoids* are recognized not by palpation but by anoscopy, which is always to be followed by sigmoidoscopy to rule out other sources of bleeding before the hemorrhoids are treated

This procedure differentiates *simple polypoid tumors*, such as single and multiple adenomata, and the rare villous papilloma.

*Inflammatory stricture* generally presents as a smooth, funnel shaped, cicatricial, annular constriction, usually felt just above the anal canal. Its surface is ulcerated, its course is longer than that of cancer and, in the vast majority of cases the Frei antigen skin reaction is positive, thus proving the lesion to be venereal lymphogranuloma. The Frei test should be done in every case of stricture or ulceration of the rectum, and the Wassermann blood test in every case of tumor, stricture, or ulcer

If a thorough clinical and laboratory study does not lead to a satisfactory conclusion, laparotomy is indicated, as the risk of diagnostic incision is minimal compared to the policy of 'watchful waiting' until an operable lesion has reached a hopeless stage.

### Prognosis

The operative prognosis of lesions of the right colon is technically better than for

those of the left because the blood supply through the ileocolic artery to the right half is more constant, obstruction is seldom present and the bowel contents are less septic. In practice, results may be the reverse

Metastasis from rectocolic carcinoma occurs relatively late but it increases with the duration of the disease. The poor late operative results, due to visceral metastases are in direct ratio to lymphatic permeation and intravascular (capillaries and veins) invasion.<sup>2</sup> Regional lymph node permeation occurs later from right than from left colonic cancers and metastases to the liver are comparatively rare. Since dissemination occurs relatively late, early discovery and wide removal of the primary growth afford the possibility of cure in many cases

The American College of Surgeons has complete records of a total of 29,195 five year cures of proved cancer of which 3,151 are of the colon and rectum.<sup>4</sup> Although these figures represent only a fraction of five-year cures that have been obtained, they are very significant and encouraging. They should serve to supplant optimism for the pessimism all too prevalent in both the professional and lay mind. Pessimism is based largely on the inevitably poor results of late and emergency operations.

### Treatment

Limitations of time make only the briefest outline of treatment possible. Radium, the cautery, and surgical diathermy are limited in their application to tumors below the peritoneal reflection and are indicated chiefly for radically inoperable carcinomas of the rectum. The accessible rectal carcinomas are usually grade II and radium resistant, while the rectal mucosa is radium sensitive.

When warranted by the general condition of the patient, radical surgical excision in one or more stages including the adjacent zones of lymphatic spread, yields the best results and the highest percentage of five year cures

For tumors of the cecum, ascending

colon and hepatic flexure, a right colectomy is performed with end-to-side or lateral anastomosis of the terminal ileum and the transverse colon, thus establishing continuity.

With tumors of the left colon and splenic flexure which tend to obstruction, the radical excision in one or two stages is usually preceded by a cecostomy to decompress the bowel. A small cancer in a long sigmoid may then occasionally be resected with end-to-end anastomosis. As a rule a safer procedure is the exteriorization maneuver in two or three stages (Paul, Mikulicz).

For a neoplasm situated in the pelvic colon, the bowel may be divided between clamps below the growth. The distal end is inverted, the tumor-bearing segment excised, and a permanent colostomy established with the proximal end. This procedure has yielded me excellent results, and several patients are well without recurrence over five years. Rarely the proximal end can be invaginated into the rectal stump and sutured, thus establishing continuity, after the method of Balfour.

For cancers of the rectosigmoid and upper rectum the Miles procedure is the best—permanent sigmoidostomy with excision of the entire bowel beyond the stoma in one stage.

Rectal growths, the upper margin of which can be reached by the finger, can be removed safely by perineal excision, with or without permanent colostomy. Perineal excision is especially indicated and gives good results in the aged, the debilitated, and in obese patients.

Epithelioma of the anus should be implanted with gold seeds of radon and proctectomy performed six weeks later. Irradiation alone is successful in some instances. Two of my patients treated with radium for epithelioma over ten years ago are well.

## Summary

1 The early symptoms of cancer in each segment of the large bowel are presented

2 The differential diagnosis of other lesions preventing similar symptoms is discussed

3 The methodical sequence of the physical examination is stressed and the required laboratory data stated

4 Anatomic conditions favoring operation are mentioned and metastases as affecting the late prognosis are noted.

5 The operative procedure indicated for cancer of each rectocolonic segment is outlined briefly

555 Park Ave.

## References

- 1 Priestley, J. T., and Barger, J. A. *Amer J Surg*, 22 (December), 1933
- 2 Brown, C. E. and Warren, Shields. *Visceral Metastases of Rectal Carcinoma*, *Surg., Gynec. & Obst.*, 66 (3) 611-621 (March), 1938.
- 3 Rosser, Curtice, *Diagnostic Criteria of Colonic Cancer*, *J. A. M. A.*, 106 100-111 (Jan 11), 1936
- 4 *Amer College of Surgeons, Committee on the Treatment of Malignant Diseases, Year-Book*, 1938 p 21

## Discussion

Dr William H. Stewart, *New York City*—The statement has been made, which is probably true, that lesions of the colon are more often overlooked roentgenographically than in any other portion of the gastrointestinal tract. Any attempt to discuss the roentgenographic aspect of malignancies of the entire colon in the time allotted would obviously be impossible. I therefore have limited my remarks to the pelvic portion.

The differential diagnosis of lesions of the sigmoid presents one of the most important and of ten one of the most difficult problems in roentgenology. It is important because cases of carcinoma and diverticulitis of the sigmoid are of frequent occurrence and important because the treatment in the two conditions is so different that serious consequences result in almost every case where an error in diagnosis is made.

In many cases the differentiation of benign and malignant colon lesions offers unusual difficulties, as carcinoma may be present in a patient with diverticulitis and in another patient inflammatory changes secondary to a diverticulitis may produce a tumor mass which has many, if not all, of the roentgen features of carcinoma.

It is unreasonable, therefore, to expect a diagnosis in every case on the x-ray studies alone. The problem is a difficult one and the roentgenologist is entitled to all the clinical and laboratory information available, in addition to his roentgenographic information. In almost all cases when all of the available material is considered, a

CANCER OF THE SIGMOID

- 1 Canalization
- 2 Mucosal pattern destroyed
- 3 Filling defects show as lobulated cauliflower masses with irregular ragged lumen and showing fingerprint deformity
- 4 There are two special types. The napkin ring deformity with minimum involvement and the massive deformity with crater formation
- 5 Usually a sharp sudden demarcation between normal and pathologic involvement
- 6 Haustral markings destroyed
- 7 Persistent unilateral deformity in some types
- 8 No evidence of diverticuli
- 9 Constancy to the character of the deformity
- 10 Rigidity with fixation and a frozen mass
- 11 No masses of barium seen outside the lumen of the gut
- 12 Usually intraluminal unless accompanied by perisigmoidal inflammatory mass
- 13 The sigmoid is liable to maintain its patency through canalization and fixation. The proximal colon is dilated. Sudden destruction may occur
- 14 Spasm of the colon is more likely to occur at the site of the lesion

DIVERTICULITIS

- 1 Not present
- 2 Mucosal pattern still incompletely seen
- 3 Filling defect consists of a serrated irregular picket fence appearance
- 4 Massive involvement. No crater formation. Never napkin ring deformity
- 5 No distinct demarcation between normal and pathologic involvement
- 6 Haustral markings still in evidence. Points at depth of indentations widened
- 7 No unilateral deformity in any type
- 8 Bud like shadows present indicating diverticuli
- 9 Changing character to the defects
- 10 Maintenance of flexibility
- 11 Masses of barium may be seen outside the outline of the colon from ruptured diverticuli
- 12 Extraluminal. The lesion is always in the wall or in the perisigmoid structures
- 13 Intestinal obstruction from inflammatory swelling and edema frequently occurs. Dilatation of the proximal colon not so extensive
- 14 Spasm of the colon is more frequently seen away from the site of the lesion

reasonable diagnosis can be made. Before arriving at a definite conclusion however I should like to emphasize the necessity of obtaining adequate film studies. The tendency is to limit the roentgenographic examination in the diagnosis of colonic lesions while in gastric investigations unlimited films are the rule. There is no set pattern for the colon and there is consequently no routine position or set of positions that will yield diagnostic films. Every patient requires careful individual consideration and fluoroscopic examination. The x ray apparatus should be equipped with a spot film device which permits the production of films at any time during the fluoroscopy. In many patients a single film of the sigmoid made with the patient in the left posterior supine oblique position will yield all the information necessary. This must be made with the bowel only partially filled and the position carefully checked by fluoroscopy. Just any left posterior oblique of the sigmoid will not do. In some cases five or six films of this region are not too many to establish a diagnosis. If only supine or prone films are taken or if the entire bowel is filled before the sigmoid studies are made redundancies are almost sure to obscure a portion of the sigmoid. In fact, one of the reasons we miss is that small lesions in the sulcus of the haustral contractions are overshadowed by the distended portion of the bowel.

The fluoroscopic examination is not only of importance as far as positioning is concerned. Palpation with the direct vision thus afforded can give much information as to tenderness fixation of the bowel and location of tumor masses.

In the differentiation between benign and malignant lesions of the sigmoid we have made the above comparison.

Acknowledging the vast superiority of the proctoscopic over the roentgenographic examina-

tion in lesions of the rectum nevertheless in pathology of the rectosigmoid and sigmoid the roentgenographic findings are often much more satisfactory than those discovered by the sigmoidoscope. Sigmoidoscopy requires skill and experience. Not everyone can pass a sigmoidoscope satisfactorily and recognize what he sees. However as the author states the roentgenologist and surgeon should work hand in hand in an endeavor to make a diagnosis which is difficult at the best.

Dr Henry W. Cave, New York City—There are many points worthy of comment in this excellent presentation of Dr. Yeomans.

He has emphasized and rightly so the symptoms and signs of early malignancy of the colon and rectum. He has stressed the vague symptoms of early growths of the right colon—progressive constipation, spurious diarrhea, gas pains, and gross rectal bleeding that point to left colon involvement. The symptom-complex of rectosigmoid and rectal growths he emphasizes is distinctive. My only comment on this section of his paper is that a large percentage of patients suffering from this disease of the colon, rectosigmoid and rectum in the early stages complain of nothing more than a feeling of abdominal discomfort, irregular bowel movements, and, in some, bleeding.

The three most valuable aids in the diagnosis of cancer of the large bowel and rectum are: (1) Digital examination which in many instances is more satisfactorily carried out with the patient in the squatting posture; there have been many tumors of the lower sigmoid that have been missed because the patient was examined in the Sims or in the knee-chest positions. (2) The proctoscope is invaluable in determining the site, the size of the growth, and in obtaining sections

for microscopic study which should be done in every instance, and should the first biopsy return negative, other specimens should be obtained (3) Fluoroscopy and x-ray study following barium enema is absolutely necessary if early growths of the cecum, ascending, transverse, and descending colon are to be recognized

As Dr Yeomans has pointed out, "from 10 to 18 per cent of the patients with carcinoma of the rectum or the rectosigmoid have been treated or operated upon for hemorrhoids within the period of active cancer symptoms" Should not a barium enema be given *every* patient who comes in complaining of a bloody discharge from the anal opening, no matter what they or their medical adviser think is the origin? May I re-emphasize the importance of turning over to the roentgenologist the data obtained by sigmoidoscopy In some instances, let it be stated that cancer of the colon and sigmoid is discoverable only when roentgenograms have been taken in the various oblique positions

The opportunity will now be taken to emphasize important features which have proved beneficial in our hands in the treatment of cancer of the colon and rectum

(1) Preoperative preparation, at least one week, should be required in properly preparing these patients for operation This in detail consists in cleansing the bowel thoroughly with Epsom salt, one-half an ounce twice a day, rectal and colonic irrigations with warm saline solutions, intravenous 5 per cent glucose in saline 2,000 to 3,000 cc daily, and low or nonresidue diets Three days prior to operation the cleansing process may be stopped, lead and opium pills, and paregoric, one dram, three times a day may then be administered with the idea of constricting the bowel, making it

technically easier to handle at the time of operation We are convinced that the mortality rate will be reduced if these measures are carried out preoperatively

(2) The employment of cecostomy for decompression purposes is of extreme importance if the slightest obstruction is present In a recent article by Sir Hugh Devine in the February number of *Surgery* he has brought forth the most hopeful procedure of so called operation on defunctioned distal colon His plan is through a small upper right rectus incision to explore the liver, to establish a complete diversion of the fecal current in the transverse colon, to then later treat the left colon by warm irrigations, and in this way prepare the completely disfunctioned colon for operation, and in growths of the left colon and rectosigmoid he has been able to resect with restoration of the fecal stream

During the last two years following Cattell's suggestion we have made an attempt to close the perineal wound following combined abdomino-perineal resection of the rectum and we believe unquestionably it has shortened the convalescence of these patients We believe the ideal operation for growths in the right colon is a two-stage procedure in the majority of instances side-to-side or end-to-side ileotransverse colostomy, later, at a second stage, resection We believe that the safest and most satisfactory procedure on the left colon is an exteriorization method, provided that the entire gland bearing area can be removed Although the Lahey two stage operation for cancer of the rectum is not only helpful but necessary in the larger growths, there is unquestionably a definite trend among the majority of rectal surgeons toward the combined abdomino-perineal resection in one stage after the Miles technic

#### 441 FOREIGN DOCTORS FAIL IN STATE TESTS

Results of the State medical examinations for 1937-38, announced January 28 by the State Education Department, showed that of 1,063 foreign doctors who tried the tests, 441 failed to pass According to the department, 1,836 candidates took the examinations—1,063 from foreign schools, 285 from schools of other states, and 488 from New York medical schools

The report showed that 55 per cent of the New York educated doctors failed in the tests and 24.9 per cent from other states failed

Listed by country, number of candidates, and

number of failures, results of the examinations follow

Austria, 112 candidates, 35 failures, Germany, 422 candidates, 210 failures, Czechoslovakia, 12, 9 failures, England, 12, no failures, France, 36, 14 failures, Hungary, 12, 8 failures, Ireland, 7, 5 failures, Russia, 10, 9 failures, Scotland, 88, 14 failures, Switzerland, 181, 66 failures, Syria, 2, no failures, Italy, 103, 58 failures, Turkey, 1, 1 failure, Cuba, 2, no failures, Canada, 62, 11 failures, Mexico, 1, 1 failure

## CHANCROID A COMPARATIVE STUDY OF THE ITO TEST MADE WITH THREE VACCINES

HARRY C SAUNDERS, M D, ORLANDO CANIZARES, M D, and  
REUBEN FRANK REIDER, M D, New York City

(From the Department of Dermatology and Syphilology New York University College of Medicine and the Dermatologic Service of Bellevue Hospital Service of Drs Howard Fox and Edward R Maloney)

THE Ito test, performed with vaccines of Ducrey streptobacilli injected intradermally, has been used extensively in foreign countries, since its discovery and has been universally considered satisfactory

In Europe, the most widely used Ducrey vaccine is the French commercial preparation, "Dmelcos," which is prepared according to the method of Nicole. Dmelcos vaccine has also been employed in this country as stated by Wise and Sulzberger<sup>1</sup> but its routine use has been impossible owing to the difficulty in obtaining it.

For some unaccountable reason, a satisfactory culture of Ducrey streptobacilli for preparation of a vaccine has not been successful in this country until quite recently. In this paper we give the results of our study with intradermal injections of Ducrey vaccines for the diagnosis of chancroid and compare the results of two American vaccines with Dmelcos vaccine.

One of the American vaccines was prepared by Greenblatt and Sanderson<sup>1</sup> at the University of Georgia. The other is a commercial preparation made by Lederle Laboratories

Ito,<sup>2</sup> working under the supervision of Bruck at the clinic of Neisser was the first to prepare a vaccine from cultures of Ducrey streptobacillus. He used it for diagnosis and treatment of chancroid. Reenstierna<sup>3</sup>, Frei,<sup>4</sup> Nicole,<sup>5</sup> and Rivalier<sup>6</sup> corroborated his results. Frei<sup>4</sup> obtained positive intradermal tests in cases of chancroid with pus from chancroidal buboes. The value of this test was confirmed by Bratzlavskij and Moreniz,<sup>7</sup> and

Cole and Levin.<sup>8</sup> In America, Teague and Deibert,<sup>9</sup> Bram<sup>10</sup> and Saelhof<sup>11</sup> have experimented with cultures of Ducrey streptobacilli. Recently Hunt,<sup>12</sup> Du laney,<sup>13</sup> and Greenblatt and Sanderson<sup>14</sup> have cultured the streptobacillus and prepared vaccines. The last mentioned authors compared the diagnostic value of their Ducrey vaccine with that of pus from chancroidal buboes and found the vaccine more satisfactory.

The test is performed on the flexor surface of the forearm with 0.1 cc of vaccine injected intradermally. To obtain uniform dosage, it is important to mix the vaccine by shaking before injecting. In cases of chancroid, an erythematous papule appears within twenty-four hours, occasionally on the second or third day. This is sometimes slightly tender. An erythematous areola, varying in size, may be present but usually disappears after two or three days. The test should be read on the third or fourth day but when positive may remain for weeks. A reaction of short duration has little or no value. The papule should be 8 mm or more in diameter. Papulovesicular, papulopustular, or nodular types of reaction may be present.

In controls, a small papule or area of erythema may develop during the first twenty-four hours but usually disappears on the second or third day.

For the proper interpretation of the Ito test, several points should be borne in mind. The test usually becomes positive during the first or second week after development of the infection, but sometimes not until the sixth week or later. It is incorrect, therefore, to speak of the

## RESULTS OF THE ITO TEST WITH DMELCOS VACCINE

|   | NO OF<br>CASES | NO OF<br>TESTS | CASES—<br>POSITIVE<br>REACTIONS | CASES—<br>NEGATIVE<br>REACTIONS | REMARKS  |
|---|----------------|----------------|---------------------------------|---------------------------------|--|
| Chancroid                                 |                |                |                                 |                                 |  |
| With buboes                               | 22             | 22             | 22                              | 0                               | Nine cases gave negative tests throughout their stay in the hospital. One of these was tested 10 months later and still gave a negative reaction         |
| Without buboes                            | 85             | 105            | 76                              | 9                               |  |
| History of chancroid or bubo              | 28             | 28             | 24                              | 4                               | Cases with negative Frei tests only were included  |
| Cases with buboes and positive Frei tests | 27             | 27             | 6                               | 21                              | The six cases giving positive Ito tests were clinically mixed infections   |
| Controls                                  |                |                |                                 |                                 |  |
| No history of chancroid or bubo           | 117            | 140            | 3                               | 114                             | Three normal individuals gave positive Ito tests. One of these also gave similar reactions to Frei antigen (mouse brain) and normal mouse brain emulsion |

percentage of positive tests without specifying the duration of the infection. The test is practically always positive when chancroidal buboes are present. Once the test has become positive, it remains so throughout life but in several instances the test has become negative following intravenous injections of Ducrey vaccine for therapy.

We believe the test to be specially valuable in longstanding chancroids. In the majority of these phagedenic lesions where autoinoculations are usually negative, the Ito test is always positive. The negative autoinoculations in these cases is probably due to the overgrowth of the Ducrey streptobacillus by common pyogenic bacteria.

A study of our cases substantiates the opinions of other observers that the vaccine is satisfactory as a diagnostic test in the majority of cases as is shown in the above table.

The results of the comparison of the three vaccines are as follows:

*Group 1 Comparison of Greenblatt's Vaccine with Dmelcos*—One hundred and eighty tests were performed on 86 individuals. In 44 cases the tests were positive and in 46 cases negative to both vaccines. In 26 of the positive cases, the two vaccines gave equal reactions. Greenblatt's vaccine gave stronger reactions than Dmelcos in 4 cases and weaker reactions in 16 cases.

*Group 2 Comparison of the American Commercial Vaccine with Dmelcos*—Sixty-two tests were performed on 27 persons. Nineteen tests were negative and 12 positive with both vaccines. In 5

of the positive cases, the two vaccines gave equal reactions. The commercial vaccine was stronger in 1 case and weaker in 6 cases.

*Group 3 Comparison of the Three Vaccines*—Three hundred and sixty tests were performed on 112 persons. Seventy-six gave negative reactions to all vaccines. Forty-four cases gave positive reactions, of which 26 were of equal intensity, 8 gave the strongest reaction with Dmelcos, 4 with Greenblatt's, and 4 with the commercial vaccine.

When the reaction to Dmelcos vaccine was negative, the other two vaccines also gave negative reactions in all the cases. The differences in the positive reactions were slight and in no case of such a degree as to be of any practical value. Some of these may have been due to differences in the age of the vaccines.

### Summary and Conclusions

In 107 cases of chancroid, 28 cases with a history of previous chancroidal infection, 27 cases with buboes and positive Frei test, and 117 controls, tests were made with 322 intradermal injections of Dmelcos vaccine, 210 of Greenblatt's vaccine, and 151 of an American commercial vaccine.

Attention is drawn to the fact that early cases of chancroid may give negative reactions for a few weeks. The reactions are practically always positive when buboes are present.

The test is of special value in longstanding chancroids where other diagnostic measures fail.

The two American Ducrey vaccines

gave reactions equal to those with Dmelcos vaccine. The tests with these vaccines confirm their specificity for diagnosis of chancroidal infections and are as useful as the accepted Dmelcos

## References

- 1 Greenblatt, R. B. and Sanderson E. S. *Am J Clin. Path.*, 2: 193 (March) 1937
- 2 Ito, T. *Arch. f. Dermat. u. Syph.* 116: 341 (1913)
- 3 Reenstierna, J. *Mösch Med. Woch.*, 1920 p. 895
- 4 Frei W. *Handbuch der Haut u. Gesch.* 21: 1 (1927)
- 5 Nicole, C. *Acta dermat. venerol.* 4: 353 (1923)
- 6 Rivalier E. *Rev. franc. de dermat. et de vénér.* 1925 p. 31
- 7 Brutzlarski, L. and Morelats, I. Quoted *Zentralbl. f. Haut u. Geschlechtskr.* 31: 147 (1929)
- 8 Cole, H. N. and Levin E. A. *J. A. M. A.* 105: 2,010 (1935)
- 9 Teague, O. and Delbert, O. *J. Med. Research* 43: 61 (1927)
- 10 Bram, J. *J. A. M. A.* 82: 1,166 (1924)
- 11 Seefelt, C. *J. Urol.* 13: 485 (1925)
- 12 Hunt, G. A. *Proc. Soc. Exper. Biol. & Med.* 33: 233 (1935)
- 13 Dulaney, A. D. *Am J. Syph.* 21: 667 (1937)
- 14 Greenblatt R. B. and Sanderson E. S. *Arch. Dermat. and Syph.* 36: 486 (1937)
- 15 Wee and Sulzberger. *Year Book of Dermat. and Syph.* 1931, p. 238, 1932 p. 316 1933 p. 249 1934 p. 429 1937 p. 340

## Discussion

Dr David Bloom, *New York City*—It is gratifying to know that at last streptobacilli were successfully cultured and that a vaccine could be prepared in this country. Chancroid is an important venereal disease because of the frequently destructive form which it assumes and particularly because it is to be differentiated from syphilis and other important affections.

The investigations carried out by Dr Saunders and his collaborators are valuable and necessary for they show that the commercial vaccine and the vaccine prepared by Sanderson and Greenblatt of Georgia compare well with the French preparation called Dmelcos. This latter preparation we have been forced to use for many years in this country in spite of the difficulties associated with the importation of this vaccine into the United States.

This intradermal test has been worked out in 1913 by Ito in Neisser's Clinic at Breslau under the direction of Bruck on a small number of patients. In 1923 Reenstierna at Pasteur's Institute in Paris continued this work and confirmed it on a much greater material. It is therefore also called the Ito-Reenstierna test. This test is recognized by all investigators as specific. It has proved its value for many years in differentiating chancroid from other diseases and particularly in investigations of lymphogranuloma venereum. About eight days after the infection this reaction becomes positive and increases in intensity with the duration of the chancroid. The presence of a

bubo favors an intense reaction. The following points have to be kept in mind when evaluating the test. The test becomes positive about eight to ten days after the infection, sometimes later. Some chancroid patients do not develop any positive skin reaction. This is however exceptional occurring according to Rivalier in one among two hundred patients. Certain non-chancroid patients may be hypersensitive to any foreign protein and react, therefore, to this intradermal test with erythema or a papule. But this simple protein reaction develops early a few hours after infection and disappears or diminishes in size within twenty four hours while the specific reaction in the chancroid patient appears late develops to maximum size in forty-eight hours and persists for one to two weeks or longer. If in forty-eight hours there is no distinct papular reaction the test may be considered negative. One should also know that after intensive intravenous treatment with the vaccine the hypersensitivity of the skin may be changed manifesting itself by the earlier appearance of the skin reaction and its quicker disappearance. Of great importance is the fact that this intradermal test produces a positive reaction long after the infection has taken place. Frei has observed a positive test in a man twenty-eight years after infection and Reenstierna fifty years after infection. This fact diminishes the value of the test. For the positive test may also indicate past chancroidal infection and thus does not decide the nature of a lesion. In such cases the autoinoculation test is of immense value and the combination of both tests has been used at our wards in Bellevue Hospital with great benefit. The fear of some authors about the danger of persistence and extension of this inoculation chancroid seems to be without any grounds according to our experience.

While the clinical features of many cases of chancroid are fairly characteristic, we do not rely on clinical observation. For it may be a mixed chancre or may assume atypical form like the elevated nodular, milium, and serpiginous chancroid which require differentiation from syphilis, granuloma inguinale, and other diseases.

The direct microscopic examination of the stained material from chancroid is not as easy and practical as many writers make one believe. For even if the lesion is cleaned and material removed for examination from underneath the borders there are rarely streptobacilli in typical chain form present. They may therefore be confused with the contaminating bacteria, like staphylococci and gram negative bacilli (bacillus coli and bacillus pyocyaneus). According to Queyrat the Durey bacillus may also assume the



form of a coccus which makes it still more difficult to recognize. There are also present different gram positive germs which may be confused with the streptobacilli, like the enterococci which are identical with the streptobacilli urethras of Pfeiffer, and rods of the group of vibrioform bacilli found in balanitis circinata and ulcus gangrenosum. It is, therefore, necessary, when Ducrey bacilli are arranged in short chains, to use, besides the Pappenheim stain which is a fine double stain but not a differential stain, also the gram stain. For these obvious reasons we have discarded at Bellevue Hospital the method of examination by smear and rely only on the intradermal and autoinoculation tests.

Dr Helen O. Curth, *New York City*—I also want to report favorably on the use of the Ducrey vaccine (Lederle) in chancroidal infections. For years, in the Vanderbilt Clinic, New York, the Ito test was performed with the French Dmelcos vaccine alone and was satisfactory. Lately, the Ducrey antigen (Lederle) was also used. The two reactions were checked against each other. There was agreement between the two reactions not only in strength but also in character. The resulting erythema in positive tests in both instances was either without marked infiltration, or infiltrated or follicular or follicular-pustular. In one case blotchy redness resulted from either test. The reaction was considered doubtful. The resulting erythema in positive cases was per-

haps slightly larger in size with the Ducrey vaccine (Lederle) than with the Dmelcos vaccine. I want to mention that even a strongly positive Ito test is no proof that the present condition of the patient is chancroid.

In our opinion the American commercial Ducrey vaccine (Lederle) is fully able to replace the French vaccine which could be obtained only with great difficulties in this country.

Dr Orlando Canizares, *New York City*—I wish to thank Drs. Bloom and Curth for their discussions. I am glad that Dr. Curth's experience agrees with ours.

We believe that there are only two reliable diagnostic procedures in chancroidal infections—autoinoculation and Ito test. Both are used as a routine in Bellevue Hospital. The autoinoculation is not by any means dangerous. This procedure is of great value in early cases, when positive it is a definite proof of the chancroidal etiology of the lesion. However, if the autoinoculation obtained is small and dries up spontaneously it should be considered negative.

The Ito test is extremely useful, but its value in early stages is limited. Therefore, in the diagnosis of chancroid both procedures should always be used as their value depends upon the duration of the lesion.

159 W 87th Street  
601 W 113th Street  
30 E 40th Street

## POSTGRADUATE MEDICAL EDUCATION

A course on general medicine is being given this spring at the Auburn City Hospital, Auburn, N. Y., for the Cayuga County Medical Society. On March 2, Dr. Clayton W. Greene, of Buffalo, will lecture on Nephritis. Dr. Greene is Clinical Professor of Medicine, Buffalo University. On March 9, Dr. Will Cook Spain of New York City will lecture on Asthma. Dr. Spain is Physician, Post-Graduate Hospital. On March 16, Dr. Charles B. F. Gibbs, of Rochester will lecture on Diabetes Mellitus. Dr. Gibbs is Associate Professor of Medicine, Rochester University.

## W P A X-RAY TO K O T B

A mass effort to curb tuberculosis among poverty-stricken families, through x-ray examinations of the 529,000 men, women, and children on home relief in New York City was announced recently by Mayor LaGuardia. No campaign of equal magnitude has ever been attempted in the past, the mayor told reporters after he watched four persons a minute pass before the x-ray machines at a W P A tuberculosis clinic. The records kept will be "unusually complete," the mayor said, and a full checkup will be made on families and friends of those found infected.

## "SKIN" REMEDY IS REMEDIED

Ten cents a bottle was the cost of a marvelous ointment sold for one dollar by a quack just sent to the penitentiary as the result of an investigation by Dr. Harold Rypins, Secretary of the State Board of Medical Examiners. He did not claim it was an 'old Indian remedy' or

"a gypsy discovery," but merely touted and tooted it as a "secret ointment, discovered by monks in Ireland 700 years ago and inherited by him through his family in 1932."

Quite appropriately, it was a "skin remedy."

# THERAPEUTIC USE OF BACTERIOPHAGES, PARTICULARLY IN SEPSIS

WARD J. MACNEAL, M D, New York

(From the Department of Pathology and Bacteriology New York Post Graduate Medical School and Hospital Columbia University)

SINCE the pioneer observations of transmissible bacteriolysis by Hankin, Twort, and d'Herelle and the recognition of the agent as a filterable virus by Twort, the further biologic studies have added much confirmatory evidence in favor of this view. The name bacteriophage was bestowed by d'Herelle and to him we owe a large part of our present knowledge of these viruses which attack, derange, and destroy bacteria. From the work of numerous investigators, the bacteriophage particles are known to range, in general, from 10 to 100 micro-mu in diameter. Borrel,<sup>1</sup> in 1928, succeeded in staining minute granules which had been set free by bacteriophage lysis. Schlesinger,<sup>2</sup> in 1933, was able to recognize the particles of coliphage in their native state by use of the dark field microscope and to determine their form and to count them in a satisfactory manner. By use of the centrifuge he was able to ascertain their size. He also has observed the agglutination of the particles by suitable antiserum. In a discussion of somewhat similar results in the centrifugation of herpes virus, Bechhold and Schlesinger<sup>3</sup> say that the significance of their observations is the same as would be the demonstration by the microscope of uniformly alike bodies of a diameter of 0.2 micro-mu and their identification as the virus elements. In 1937, MacNeal Frisbee, and Krumwiede,<sup>4</sup> employing a technic similar to that used by Castaneda for staining the virus bodies of typhus fever, were able to demonstrate differentially stained particles in the interior of bacterial cells undergoing lysis by bacteriophage, particles of such size as to conform to the measurements of bacteriophage

particles derived from filtration experiments. It seems, therefore, that the designation of 'invisible' cannot longer survive in the descriptions of the rickettsias, bacteriophages, or indeed of many other viruses in the filterable group. d'Herelle early recognized a distinction between the bacteriophage particle, the essential reproductive element, and its ferments or enzymes. The validity of the pioneer experiments on which this recognition was based has, on subsequent examination, seemed rather insecure. More recently, however, Sertic<sup>5</sup> and his associates have found important new evidence, indicating quite clearly the existence of soluble, diffusible and non-reproductive enzymes elaborated by the relatively nondiffusible bacteriophage particles, which latter are endowed with the (vital) property of unlimited reproductivity. Gratia,<sup>6</sup> by use of centrifuge of high velocity, has been able to concentrate the bacteriophage particles and Girard and Sertic,<sup>6</sup> by using a centrifugal force of 300 000 G, were able to destroy a large part of the bacteriophage particles without reducing the concentration of the lysine. Stanley, Wyckoff and Northrop<sup>7</sup> have applied chemical and physical methods to the study of viruses, including bacteriophage, and have been able to concentrate the virus proteins which possess the properties of enzymes. These authors seem not to distinguish between the living virus particles and the chemical enzymes produced by living cells, a distinction which interests the biologist. Studies in this field are obviously of great fundamental and theoretic interest.

Of greater practical importance, how-

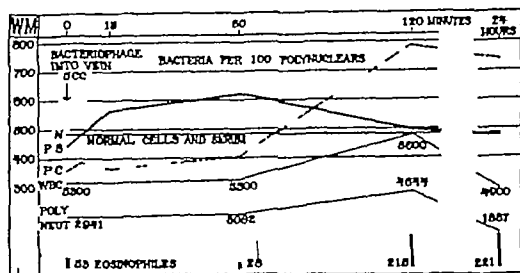


FIG 1 Response of the blood of a healthy person to intravenous injection of 5 cc staphylococcus bacteriophage. The control normal leukocytes and normal pooled serum showed an activity against the bacterial suspension indicated by ingestion of 490 bacterial cells by 100 polynuclear leukocytes. The experimental subject, designated as P, had a blood serum which at the start was slightly below the control in opsonic effect, PS, 440 bacterial cells per 100 leukocytes. In 15 minutes after injection of bacteriophage this opsonic power was increased, giving 560 phagocytized bacteria and at one hour it was still higher, 620 bacteria, declining after that time. The activity of the phagocytic cells of the experimental subject is indicated by the line PC. This activity remained below the normal average for the first hour, but it was markedly elevated at the end of two hours and remained high at 24 hours. The behavior of the white cells, WBC, polynuclears neutrophilic leukocytes and of the eosinophiles is also indicated.

ever, are those studies which are concerned with the preparation of bacteriophages<sup>8</sup> in such form that they may be safely used to combat infection in the body. Ordinary broth filtrates are useful for application to surface lesions, including those of the skin, intestine, and even of the urinary tract. For injection into the tissues and into the blood stream the bacteriophages are developed in a more bland medium in which the amino-acid asparagin is the only source of food nitrogen. Relatively large quantities of such preparations may be injected intravenously without untoward effects due to the medium itself, and we have gradually come to the exclusive use of these for injection into the tissues as well.

The early observations of d'Herelle suggested that bacteriophages aid in the treatment of bacterial infections by killing and dissolving the infectious microbes, and it still seems that such destruction actually takes place in the lumen of the intestine and of the urinary

tract. However, further studies have clearly shown that this mechanism is not effective in the presence of blood, blood serum, or purulent exudate and hence of no use in the interior of the body tissues. As early as 1925, Bazy<sup>9</sup> employed the staphylococcus bacteriophage of Gratia in the treatment of all sorts of so-called pyogenic surgical conditions, sometimes by encircling the lesion with a series of injections and in other cases by subcutaneous injection at a distance. By either method, equally good results were obtained and the lesion progressed rapidly to healing. The mechanism of action was not in accord with the theory of d'Herelle. In fact, some lesions healed rapidly under bacteriophage treatment, while the staphylococci isolated from the lesion proved more or less resistant to the bacteriophage in the test-tube experiment. Occasionally the response to treatment with staphylococcus bacteriophage was favorable, although the infecting organism proved to be a streptococcus or some other germ. Bacterial extracts which did not contain bacteriophage and bacterial lysates obtained by various other procedures gave similar therapeutic results. Bazy concluded that, in the therapeutic use of staphylococcus bacteriophage, events proceed as if the lytic principle played no part at all and the curative effect were due essentially to the soluble products of the bacteria, stimulating hyperactive digestive function of the leukocytes. Subsequently, studies of many workers,<sup>10</sup> some in our own laboratory, have now made it quite clear that the bacteriophage preparation exerts other effects besides that of bacteriolysis, and that some of these come into play in the circulating blood and in the tissues. The most immediate of these is an opsonic effect which can be demonstrated in the test tube in the presence of serum, in the experimental animal, and also in the blood of the human individual within fifteen minutes after use of bacteriophage.

One experiment, done in collaboration with Miss McRae, may serve to illustrate. In this instance blood was drawn

from the elbow vein of a healthy person for determination of opsonic and phagocytic index. A white and differential blood count was taken. Then an intravenous injection of 5 cc asparagin staphylococcus bacteriophage was given. After lapse of 5 minutes, another sample of blood was taken for determination of opsonic and phagocytic index, again at 15 minutes, at 60 minutes, and at 120 minutes after the injection. Blood counts were taken at 60 minutes and at 120 minutes. These examinations were repeated again at the end of 24 hours. In 15 minutes after the phage injection the opsonic activity of the serum was increased to 560 as compared with 440 at the start and it rose to 620 at 60 minutes, declining in the later examinations. These figures represent the absolute numbers of phagocytosed cocci counted in 100 leukocytes on the microscopic preparations. The phagocytic index remained nearly at the same level for the first hour and was more than doubled at the end of the second hour and it remained almost as high at 24 hours. The total white cells and the polynuclear leukocytes showed minor alterations suggesting a mild temporary stimulation. Of greater interest, perhaps, was the behavior of the eosinophiles, which numbered 53 per cubic millimeter at the start, diminished to 28 at the hour, rose to 215 at two hours and 221 at 24 hours. We do not wish to ascribe too much importance to these observations until more experimental facts have been accumulated. However, it is interesting and somewhat suggestive to compare these observations on a healthy person with the somewhat similar studies on the septic patients mentioned farther along in this communication. Obviously the opsonic effect is much more prompt than any lytic effect and it could hardly be a reaction of immunity. There can be little or no doubt that it is due to enzymes in the bacteriophage preparation which immediately attack the respective bacteria and render them more susceptible to phagocytosis by the wandering leukocytes and by the fixed phagocytic cells of the reticulo-endothelial system.

After two hours the leukocytes themselves ordinarily become more actively phagocytic, apparently because they have taken up the bacteriophage particles and enzymes. Furthermore the experimental evidence indicates that such phagocytic cells are now able to destroy and digest the phagocytosed bacteria more efficiently with the aid of the bacteriophage and its enzymes. Subsequently, as pointed out by Albee and Patterson<sup>11</sup> and later emphasized by the work of Hoder,<sup>12</sup> those bacteria which escape destruction are often altered in their character and especially in respect to their virulence by action of the bacteriophage, so that the severity of the infection is ameliorated. These properties of the bacteriophage preparation thus permit it to bring immediate help to the patient who is fighting against a bacterial infection threatening to overwhelm him. If the acute emergency is successfully met it must be evident that some degree of immunity, such as follows an unaided recovery from infection, may have been achieved by the natural resources of the patient.

The technical methods of applying bacteriophage are of some importance for success and there is need for still further improvement in this field. At present we rely chiefly upon intravenous injection of the bacteriophage in the asparagin medium. If there are readily accessible lesions, these are treated by application of the phage to the surface, by irrigation with phage, and by injection of it through a fine needle into the lymph spaces by multiple punctures encircling the lesion. We prefer to avoid all elaborate or possibly injurious instrumentation, particularly in the air passages, the intestine, and the urinary tract, relying upon the hematogenous route to bring the bacteriophage to internal lesions. When the bacteria are present in the circulating blood, the intravenous administration of bacteriophage is imperative and the patient should be spared all operative procedures and especially the administration of anesthetics, until the infection of the blood stream has been brought under control. This is emphatically true

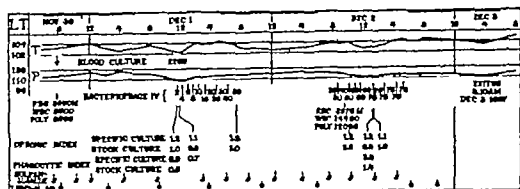


FIG 2 Condensed clinical record of L T, white male, aged 15 years. Note absence of response to enormous doses of bacteriophage, a total of 210 cc on December 1 and 775 cc on December 2. This boy had large bacterial vegetations on the valves of the heart and embolic lesions in the brain.

in the invasive stage of hematogenous osteomyelitis<sup>13</sup> but is also not to be forgotten when the supposed "focus of infection" is located elsewhere. In these septic conditions the intravenous injections are given at intervals of 45 minutes in gradually increasing amounts until the patient goes into a chill. In the typical reaction, the distressing rigor lasts from 5 to 50 minutes, during which the temperature usually rises to 104 to 108 degrees, sometimes higher. Following this the patient becomes rosy and there is profuse perspiration with fall in temperature during the next six to ten hours to a much lower level, sometimes below 99. One then continues smaller intravenous injections of the bacteriophage twice daily until the blood culture is negative, then once daily until recovery is complete and then twice a week for some months to forestall recidive. In staphylococcus bacteremia the initial dose of bacteriophage is ordinarily 0.5 to 2 cc. In bacteremia due to the colon bacillus, typhoid bacillus, or other related organisms the initial dose is 0.1 to 0.3 cc. If the shock reaction is not obtained the prognosis is not so favorable. One therefore persists in the serial injections in such cases until a total amount of 100 to 300 cc of bacteriophage has been administered. Failing to obtain a reaction in a patient with persistent positive blood culture, one tries again, after three or four days, with a second series of increasingly large doses. When the staphylococcemia persists, one suspects the presence of bac-

terial growth on the valves of the heart or in a thrombus in one or more of the larger veins. The intravenous injection of neoarsphenamine appears to supplement the action of bacteriophage in such instances. In streptococcus infection, on the other hand, one places chief reliance on sulfanilamide and antistreptococcus serum and employs the streptococcus bacteriophage, when found potent by laboratory tests, to supplement these agents.

Our experience in bacteriologic study and preparation of bacteriophage for treatment of septicemia has now extended to more than 300 patients. In some instances these patients have been seen in consultation and in a few instances we have carried out the bacteriophage treatment ourselves. Consideration of the summarized records of a few of these may help to illustrate the actual methods employed in treatment.

L T, white male, aged 15, born October 4, 1922, gave history of rheumatic fever with severe cardiac difficulty at the age of 5 years. Since then he had developed into a vigorous athletic boy. On Wednesday, November 24, 1937, while engaged in a strenuous hockey game, he suffered a slight abrasion of the left ankle, which received little or no attention. On Friday, November 26, he developed a severe head cold with fever, headache, vomiting, and epistaxis. On the next day he complained of blurred vision and double vision. The physician who had cared for him as a child was called and a trained nurse was placed on duty on Sunday. Twitching of left side of the face was noted on this day. He was transferred to the hospital on Monday, November 30, with admission temperature 103 F, pulse 116, respirations 26, at which time general hyperesthesia, slight general cyanosis, twitching of left side of face, slight irregularity of pupils and sluggish reaction to light, and a blowing systolic murmur at the heart apex were noted. A diagnosis of acute nasal sinusitis with possible encephalitis and possible septicemia was recorded. A blood count taken at 7:40 P M showed a

leukocytosis of 9,500 with 87 per cent (8,265) polynuclears. A blood culture taken at the same time showed positive growth of staphylococcus at 11 30 A.M., December 1, and subsequently there developed on the plates colonies of *Staphylococcus aureus* too numerous to be counted, but estimated at more than 1,000 per cc of blood.

At the request of the attending physician we undertook bacteriophage treatment at once. A specimen of blood was taken at 11 31 A.M., December 1, for blood culture, opsonic index, and phagocytic index. Then an intravenous injection of 2 cc. stock asparagin staphylococcus bacteriophage was given, followed at intervals of approximately 45 minutes by intravenous injections of 4-6-8-10-15-20-25-30-40 and 50 cc., the last injection at 7 26 P.M. The total amount of bacteriophage was 210 cc. There was no reaction. The opsonic index showed little, if any, change. The condition was recognized as desperate. On the next morning a second series of intravenous phage injections was begun with 25 cc. at 8 A.M., followed at fairly regular intervals by progressively larger doses up to 75 cc until a total amount of 775 cc had been given by 5 20 P.M. There was no reaction. The patient continued in a state of low delirium from which he could be aroused to rational response by moderate effort. During the night he sank into a coma and could not be aroused after 2 30 A.M. Respirations ceased at 8 10 A.M., December 3. Blood films taken at 9 40 A.M., December 2, showed phagocytized diplococci within the polynuclear leukocytes of the circulating blood.

Necropsy at 10 15 A.M. revealed large friable, blood stained vegetations on the mitral and aortic valves and, behind the posterior leaflet of the tricuspid valve a firmly attached, ragged, grayish yellow vegetation, measuring  $10 \times 5 \times 2$  mm. The stained sections showed massive collections of Gram positive cocci in the superficial layers of these vegetations. The kidneys contained multiple small pyemic abscesses and there was a large infarct of the spleen. Within the skull

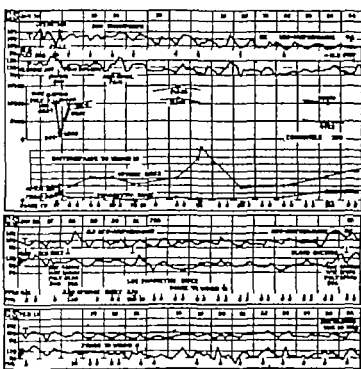


FIG. 3. Condensed clinical record of G. S. white male aged 8 with persistent staphylococcus bacteremia, osteomyelitis of left tibia and clinical signs of cardiac involvement. On January 11 at the time of the sharp reaction to bacteriophage, there was a marked decrease in the circulating leukocytes. Low phagocytic index persisted until the blood culture became negative. The opsonic index remained high after the reaction on January 11. Neosarsphenamine was used as an adjunct to the bacteriophage therapy.

there was a sub-dural clot over the left fronto-parietal region, measuring  $80 \times 100 \times 10$  mm., apparently originating from a ruptured pial vessel weakened by mycotic aneurysm. Another hemorrhage was found, apparently originating in the left occipital lobe, infiltrating the brain substance and rupturing into the sub-arachnoid space and into the posterior cornu of the lateral ventricle to fill the ventricles with blood.

G. S. white male, aged 8, born March 31 1920, kicked himself on the left ankle with roller skate about December 27, 1937, producing a small abrasion. On Thursday January 6 he turned his ankle while skating but gave the injury no particular attention until Saturday, January 8, when the entire left leg became painful and his temperature rose to 105 F. He vomited several times. He was seen by a physician on Sunday and was admitted to the hospital at 3 20 P.M. on Monday, January 10, 1938, with diagnosis of cellulitis of left calf and in

fect abrasion of ankle. Roentgenologic examination revealed soft-tissue thickening in the lower third of the left leg without gross osseous or articular abnormality. Blood culture was taken at 1 A M, January 11. At 7 30 A M the boy complained of pain in right upper arm and in left leg. At 11 32 on this day, incision of the left leg revealed a thickened periosteum. This was incised and drill holes were made into the lower anteromedial aspect of the tibia above the epiphyseal line. Microscopic examination of the hemorrhagic exudate from the surgical wound revealed an occasional clump of cocci and the cultures subsequently gave abundant growth of *Staphylococcus aureus*. Meanwhile the blood culture taken at 1 A M showed many small colonies and a tentative diagnosis of staphylococcus bacteremia was communicated to the attending surgeon at 4 50 P M, who at once requested bacteriophage therapy, which was administered by our own group.

A blood count was taken at 5 03 P M. and another blood culture at 5 04 P M. Then at 5 05 an intravenous injection of 2 cc stock asparagin staphylococcus bacteriophage was given, followed by similar injections of 3-5-7 and 10 cc at approximate intervals of 40 minutes, the last injection at 7 47 P M. At 8 20 P M the chill began, at which time his temperature was 102 and pulse rate 132. It lasted 18 minutes and was only moderately severe. At the end of the chill, 8 38 P M, the rectal temperature was 104.6 F. The patient vomited about 300 cc at 8 41 P M. Blood for opsonic and phagocytic study was obtained at the start of the phage injections, at the beginning of the chill, 8 24 P M, and again at 8 45 P M after the termination of the chill. The blood count was taken again at 9 03 P M about half an hour after the chill had ceased. These laboratory examinations were repeated the next morning, January 12, at 8 10 A M.

The behavior of the blood count, the opsonic index, and the phagocytic index in relation to the chill reaction and the reduction of bacteria in the blood is of peculiar interest. Before the phage in-

jections were started the white blood cells were 10,050 and the polynuclears 8,894, the opsonic index was 1.8 and the phagocytic index 0.6. Four minutes after start of the chill the opsonic index was 2.1 and the phagocytic index 1.6. At 8 45 P M, seven minutes after the chill terminated, the opsonic index had dropped to 1.1 and the phagocytic index to 0.8. Even more remarkable was the drop in white blood cells. The count at 9 03 P M, 25 minutes after termination of the chill, was 1,550 white cells per cubic millimeter and 992 polynuclear leukocytes. From our earlier studies of the internal organs of rabbits injected intravenously with staphylococci and bacteriophage it is not difficult to visualize the phagocytosis of bacteria and of injured leukocytes which was taking place in the endothelial cells of this boy's spleen, liver, lymph nodes, and bone marrow between 5 P M and 9 P M on this day.

The patient was distinctly improved after this, but his condition was far from satisfactory. At 8 05 A M, January 12, his blood pressure was 110 systolic and 40 diastolic. The heart apex beat was visible well out beyond the nipple line and the first sound was muffled. The liver margin gradually extended below the costal margin and became tender and on January 14 it was continuously painful. The cardiac dilatation may have been temporarily aggravated by the transfusion on January 13, although this was very carefully given by the fractional method to safeguard the weak heart. Perhaps the most ominous sign was the persistence of a small number of staphylococci in the circulating blood. By January 17 the circulation was improved, the heart apex was palpable about 5 mm mesial to the nipple line in the fifth intercostal space. The liver margin was still below the costal margin. On January 21, because of apprehension in regard to the mitral valve, we gave him 0.2 gram of neoarsphenamine intravenously and this was followed by 0.3 gram on January 25 and 29. As shown at the bottom of the chart he received intravenous bacterio-

phage twice daily and a larger series of doses on January 14, 15, 18, 20, and 24. These more heroic doses produced no evident reactions, which behavior tended to increase our concern about the cardiac valves. The opsonic index assumed and maintained a high level but the phagocytic index remained consistently below 0.5 until the blood culture became negative. This seems to be in accord with the theoretical expectation because active phagocytes would tend to be used up in the presence of opsonized bacteria. The phagocytic index rose to 1.3 on January 24, when the blood culture first became negative and was 1.6 on January 31. The blood culture on January 26 again became positive, showing one colony per 4 cc. of blood and after that it was not again found positive. The upset on February 9 and 10 caused some alarm but it was apparently due to a dietary indiscretion. The patient was discharged on March 19, 1938. He is walking with out crutch or cane and there remains only a small crust on the tibial wound. Intravenous bacteriophage is being continued three times per week.

Our series of patients with infection of the urinary tract with colon bacilli is also large but the cases of colon bacillus infection of the blood stream are rather few, probably less than 25 in our series. An example of each may serve for illustration.

C. A., white female, aged 31, had been ailing for some time and on August 26, 1935, she was admitted to hospital on account of fever and irritation of the urinary tract. Blood culture taken at 4 P.M., August 26, gave positive growth of colon bacilli. After a chill her temperature reached 105 F at 8 P.M. On August 27 cystoscopic examination added no important information. Upon recognition of the growth in the blood culture on this day a grave prognosis was given. On August 28 culture of the urine yielded 12 billion colonies of colon bacilli per cubic centimeter of urine. It was decided to try bacteriophage therapy. Two intravenous injections were given, 0.2 cc. at 3:30 P.M. and 0.3 cc. at 4:15

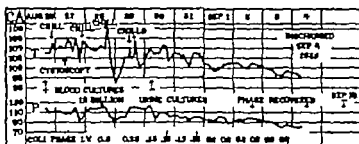


FIG. 4. Condensed clinical record of C. A., white female aged 31 with pyelonephritis and colonbacillus bacteremia. Intravenous injection of coli bacteriophage on August 28, was followed by a definite reaction with chill and temperature rise to 108 F. With continuation of the intravenous phage therapy there was rapid progress to clinical recovery and complete sterilization of the urinary tract.

P.M. About half an hour later, the patient developed a chill and her temperature rose to 108 F at 6 P.M. and then declined rapidly to 97 F at 12:30 mid night. This appears to have been a fairly typical severe bacteriophage reaction. On August 29 an intravenous injection of 0.1 cc bacteriophage was given at 10:40 A.M. and a second intravenous injection of 0.15 cc at 3 P.M. There was a slight chill after each of these injections and the temperature rose to 105.4 F at 4 P.M. On August 30 a blood culture was taken early in the morning and this culture remained sterile. On this day an intravenous injection of 0.15 cc bacteriophage was given in the morning and again in the afternoon without reaction and on August 31 the same treatment caused no reaction. On September 1 the intravenous dose was increased to 0.2 cc. twice a day and this was continued through September 3. The patient improved rapidly and was discharged from hospital on September 4. It is of interest that the urine specimens obtained on September 2 and September 4 contained bacteriophage, illustrating the well known ready passage through the kidney of bacteriophage injected intravenously. On September 18 a specimen of urine was found to be free from bacteria and bacteriophage. The patient appeared entirely well.

M. G., white female aged 36 had an attack of "grippe" about March 14, 1936, which was accompanied by some dysuria





## Bibliography

1. Borrel A. Surcoloration de colonies microbiennes bactériophages. *Compt. rend. Soc. de biol.* 95 947-948 (March 24) 1928. Surcoloration et microbes invisibles. *Ibid.* 111 923-924 (Dec. 17) 1932.
2. Schlesinger, Max. Beobachtung und Zählung von Bakteriophagen im Dunkelfeld. Die Form der Teilchen. *Zts. f. Hyg.* 118 774-780 (1933).
3. Beckhold H. and Schlesinger M. Die Größenbestimmung von Herpes virus durch Zentrifugierung. *Zts. f. Hyg.* 118 342-353 (1933).
4. MacNeal, Ward J. Frisbee, Frances C. and Krumholz Elma. The lysis of *Vibrio comma* by bacteriophage and by immune serum. *J. Infect. Dis.* 61: 222-227 (Sept.-Oct.) 1937. Lysis of *Vibrio comma* by bacteriophage and by immune serum. *Proc. Soc. Exper. Biol. & Med.* 57 172-173 (1937).
5. Sertie, Vladimir. Untersuchungen über einen Lysozymen bildenden Bakteriophagen. I Mitteilung. Der Aufbau der Bakteriophagen kolonien. *Centralbl. f. Bakt. i. Abt. Orig.* 110: 125-130 (1929). Diffusion de la lysozyme et pénétration des Bactériophages autour de la phage. *Compt. rend. Soc. de biol.* 118: 629-630 (1935).
6. Girard, Pierre, et Sertie Vladimir. Actions de hautes champs centrifuges sur diverses cellules bactériennes, sur différents bactériophages et la lysozyme diffusible d'un bactériophage. *Compt. rend. Soc. de biol.* 118 1,280-1,283 (1935).
7. Gratia, André. La centrifugation des bactériophages. *Compt. rend. Soc. de biol.* 117: 1,228-1,230 (1934).
8. Stanley W M. Isolation of a crystalline protein possessing the properties of tobacco-mosaic virus. *Science*, 51: 644-645 (June 28) 1935. Wyckoff Ralph W O. La preparation des virus proteiques par ultra centrifugation. *Compt. rend. Soc. de biol.* 128 5-7 (May 1) 1937. Northrop John H. Chemical nature and mode of formation of pepsin trypsin, and bacteriophage. *Science* 88: 479-483 (Nov. 20), 1937.
9. Morton, Gladys, and Wasserman M. The technique for isolation and preparation of bacteriophage. *J. Lab. & Clin. Med.* 20: 183-194 (Aug.) 1935.
10. Bazy Louis. Traitement des infections chirurgicales a staphylococcus par le bactériophage anti staphylococcique. *Compt. rend. Soc. de biol.* 92 485-486 (Feb 21) 1923.
11. Nelson A. R. The effect of bacteriophage upon the phenomena of leukocytosis and phagocytosis. *J. Immunol.* 18 43-64 (1923). Smith, George H. Bacteriophage and phagocytosis. I Effect on resistant and dead bacteria. *J. Immunol.* 18: 125-140 (1928).
12. MacNeal Ward J., Frisbee Frances C. and Slavkin, Alice E. Mechanism of bacteriophage action in staphylococcus bacteremia. *Proc. Soc. Exper. Biol. & Med.* 30 12-14 (1932). MacNeal, Ward J. McRae Margaret A., and Colmers, Rudolf A. Further observations on bacteriophage action in the presence of blood. *J. Infect. Dis.* 63: 25-33 (July-Aug.) 1938.
13. Albee, Fred H. and Patterson, Marjorie B. The bacteriophage in surgery. *Annals of Surgery* 91 855-874 (1930). Patterson Marjorie B. and Albee Fred H. Bacteriophage in relation to healing of osteomyelitis. *Proc. Soc. Exper. Biol. & Med.* 27 370-378 (1930).
14. Hoder Friedrich. Der Einfluss von Bakteriophagen auf die Phagocytierbarkeit von Bakterien. Experimenteller Beitrag zur therapeutischen Wirkung von Bakteriophagen. *Zts. f. Immunitätsforsch. u. exper. Therap.* 84 46-61 (1934-1935).
15. MacNeal Ward J. The infectious organism in osteomyelitis. Part I The bacteriology of bone infection. Part II Bacteriophage and serum therapy. *J. Bone & Joint Surg.*, 19 886-903 (1937).

## Discussion

Dr Morris L. Rakietsen, Brooklyn—Dr MacNeal and his associates have been investigating certain phases of bacteriophagy for the past several years. Out of their studies have appeared results that have proved of practical value in the therapeutic use of bacteriophages. The inhibitory power of pus and whole blood on certain phages was reported from his laboratory in 1931. More recently he has made some interesting observations on what may be termed the indirect action of phages, that is the increased

susceptibility of bacteria to white blood cells in the presence of phage. He has also had an unusually large experience with severe cases of infection in which he has administered bacteriophage. Undoubtedly many in this audience are familiar with some of the reports that have appeared under his name. Our interest in bacteriophage—covering a period of some ten years—has been away from the clinical application being concerned chiefly with the biologic aspects. However no one can have any considerable experience with phages without being called upon from time to time for phages to be used therapeutically.

Bacteriophagy in the test tube is a relatively simple and clear-cut phenomenon. In a medium containing actively growing susceptible culture the addition of unbelievably small amounts of active phage results over a variable period of time in the complete dissolution of the culture. Under these highly artificial conditions, with the odds in favor of the lytic agent it is little wonder that for many years a good deal of energy has been spent in attempting to reproduce these conditions in vivo. And when there has been failure, a large outcry has been raised regarding the inefficacy of bacteriophage in the treatment of infections. In vivo conditions are much more complex than the simple broth test tube, and with conditions now favoring the growth of the bacteria the task of destroying them by any means is a very difficult one.

Many bacteriophages may be able to effect complete lysis of a bacteria in the test tube and prove to be absolutely worthless as a therapeutic agent. Most races of staphylococcus phages will lyse hemolytic strains of staphylococci in vitro but there are only a very few races of staphy phages that can bring about lysis of staphylococci in the presence of serum or pus. However if one adapts a staphylococcus phage to increasing concentrations of pus and serum one can finally produce a phage that will dissolve susceptible culture in concentrations of pus and serum that inhibit nonadapted phages. Such a phage may now be regarded as a virulent phage. d'Herelle, in all of his studies dealing with the therapeutic application has insisted on using only those phages of maximum virulence. In many instances he has used phages that have been isolated from convalescent cases such phages have actually demonstrated their ability to act in diseased tissue. It is highly important to remember that not all phages are equally good. Care in the selection of highly active races of phages their further development and maintenance, for possible therapeutic application, is a fair-sized job in itself. Laboratories in which

investigative work with phages is being carried out, generally have on hand such selected races

If phage is to be used therapeutically care must be taken by the individual administering it to attempt as best he can to get the phage in as close contact with the infected tissue as possible. That means removing tissue debris, irrigating sinus tracts with saline thoroughly to remove the accumulated exudate and so forth. If one neglects these points one is likely to have the phage (staphylococcus phages particularly) inactivated before it reaches the seat of infection. With regard to the amount of phage to use there are no standard doses to go by. Our practice, following d'Herelle, has been to use larger doses of phage initially than those described by Dr. MacNeal. In cases of sepsis our initial dose is usually not less than 10 cc. diluted in 50-100 cc. of physiologic saline, given intravenously and very slowly. If no reaction occurs in three hours this dose is repeated. Failure to get a reaction after three injections, in our experience, always resulted in failure with that phage. Indeed it is difficult for us to understand why repeated intravenous injections of phage over a long period of time should ever be used. Since phage is antigenic, antibody against the phage develops after 5-6 days when it is given parenterally, and when antibodies are present (antiphagic antibody) the phage is neutralized very rapidly, when it is injected. The only method of circumventing this antiphagic action of the serum is to use a phage that is antigenically different from the one responsible for the production of the antiphage. But for all practical purposes intravenous phage

therapy in order to be effective should show a good result early in the treatment.

One of the reasons for some of the failures charged to bacteriophage, and only because phage was given, is that too often it is the last material used. My own experience in cases of staphylococcus sepsis has been with cases that have been on the wards for many days, and only when multiple transfusions and other therapeutic measures have failed bacteriophage is tried. By this time the spleen, kidneys, and heart muscle may be riddled with miliary abscesses, and even if the blood stream could be freed of organisms, enough damage to vital organs has occurred to bring about the death of the patient. I am certain that Dr. MacNeal's experience parallels mine in this respect.

Finally, in chronic cases of infection that are to be treated with bacteriophage, the physician should understand that he is dealing with living agents, the bacteria, and the phage, that as the organism attempts to and often is successful in adapting itself to a phage, it is necessary to re-isolate another phage to take care of the changing organism. All of which means a good deal of co-operation and understanding between the physician and the laboratory. Bacteriophage has value in the treatment of infections. Its effectiveness is directly proportional to the quality of the phage, the time when it is utilized, and the experience of the one who is to administer it.

The presentation of Dr. MacNeal has pointed out certain valuable criteria for determining the effectiveness of phage when it is to be used therapeutically. More studies along these lines will be very helpful.

### "ONE IN TEN"—PROPHECY, NOT FACT

One person out of every hundred in the United States is infected with syphilis and nine more out of every hundred will acquire syphilis at some time in life if present rates prevail, Miss Lida J. Usilton, Senior Statistician of the United States Public Health Service, declared on January 18 at a meeting of the New York Chapter of the American Statistical Association at the Hotel Woodstock, in New York City. In discussing

the subject, "Do 10 in 100 Have Syphilis?" Miss Usilton stated: "The estimate on the number who have acquired syphilis is 1 in 100."

The estimate on the number who under existing detection and treatment facilities will acquire syphilis at some time in life is 10 in 100. This has been aptly expressed as 'syphilis strikes one out of every ten adults'."

Following the report of a recent death of an infant from lead poisoning traced to the use, by the child's mother, of a lead nipple-shield, the Public Health Council has adopted an amend-

ment to the State Sanitary Code which prohibits the sale or use of such shields, according to an announcement by Dr. Edward S. Godfrey, Jr., State Commissioner of Health.

# Preventive Medicine

## BETWEEN MENTAL HEALTH AND MENTAL DISEASE

B LIBER, M D , DR.P.H , New York City

*Editorial Note Under this title will appear short summaries of 'transition cases' from the service of this author in the New York Polyclinic Medical School and Hospital. The descriptions are not complete clinical studies but will accentuate situations from the point of view of individual mental hygiene such as crop up in the everyday practice of medicine*

### Psychosis and Marital Troubles

THERE are happy, unhappy, and in different marriages. The ideal marriage, which is rather the exception than the rule, is the one in which the participants are well adjusted to one another and where they are real partners, companions, friends. If a man and a woman associate without caring much for one another, but at least are not enemies and show no active hatred toward each other, they can live together indefinitely if they are at least sexually adjusted. When however, there is no sexual compatibility or enjoyment, the marriage will eventually be destroyed or is practically disrupted even if life continues under the same roof, though there may be complete agreement or community of ideas in many respects.

„Marriage, in one form or another, is purely human. It demands in theory an adaptation that in practice is feasible under certain conditions only and it provokes an infinite kaleidoscope of conflicts and therefore of direct and indirect causes of mental difficulties leading to mental disorders, in certain minds more than in others. Religion, social and economic conditions, the partners' upbringing, their heredity, their original mental state, complicate the situation to a high degree and make married life even more absurd. Sometimes it is to be wondered at that there still are so many human minds which, in spite of badly

unadjusted marriages, have escaped in sanity

And yet, in their purified and highly civilized as well as in their simplest forms, wherever concessions are instinctively or deliberately made, both sexual life and marriage could be and sometimes are the most beautiful things in our existence.

There are all sorts of married relationships, but some are more typical than others.

Usually man dominates or leads and woman follows. This may be truly so or in appearance only. Whoever is the dominating partner does not matter if the other accepts the situation. Trouble brews when both are equal in strength and ambition and neither can endure the yoke of the other. The best arrangement, the greatest harmony results when they both find and keep their places, knowing their respective ability and value, leading in those matters in which he or she is superior and yielding in those in which she or he is inferior. That is true adjustment.

We see the submissive, weak willed male tugged along by the energetic, despotic female, who talks for him, decides for him, acts for him, protects him, much like the mother spider, except that she does not chew him up. Or the forceful male who never admits that the wife knows anything, who bullies and intimidates her and to whom she admiringly looks up for wisdom and guidance. In

*(Excerpts from a lecture delivered on November 2 1938 before the East Flatbush Medical Society Brooklyn New York)*

the extreme cases or among very ignorant people she is not only respectful and obedient but does not mind being physically mishandled. She anticipates blows from him and concedes, like in antiquity, his right to do anything he desires with her. She may adopt the attitude of the wife in one of Molière's comedies where she resents being defended against her husband by anyone. "*Et je veux qu'il me batte*." In one case he may need such a wife, in the other just such a husband is necessary to her.

A highly cultured, impetuous American married and divorced four wives because he was arrogant to all of them and mistreated them all and none of them stood for his fanciful caprices and brutality. As far as is known they did not remarry, were acquainted between themselves and Mrs. X Number One, the oldest in line, met on the most friendly terms. Mrs. X Number Two, Three, and Four. But X, now on the shady side of fifty, took to himself a very young and splendid-looking girl, with whom he lived in peace, "because there was no wedlock," as he explained. While he had no children with the legitimate wives, his mistress became a mother, he esteemed her highly all around and treated her with respect. He was even somewhat afraid of her, because as he said, "she had no obligations toward him, she was giving herself freely and willingly." No mental disturbance resulted either for him or for any of the five numbers—for several years, at least, as far as is known. But there was enough tinder to set a fire blazing, there were enough conflicts to cause mental trouble in less resistant minds.

A fine symbiosis was present between a merchant whose life consisted of attending to his store until late in the evening, lying down comfortably, going to sleep before finishing his paper and not minding and not questioning what his wife was doing. She, grateful for her freedom, used it out to the full, by going away when he was nicely tucked in and coming home and slipping quietly into the bed before he awoke. She made a

good housewife, attended to his needs as carefully as the best and permitted him even the sex relations when he desired it, about once a month. Never a hitch in this perfect idyllic adaptation and never any mental disorder of any sort. But possibilities for mental conflicts existed and mental disorder would have been rife if latent causes had been present in this couple.

The situation was different in the case of a chemist who was always aware of his importance—nay, greatness—and never lost a chance to arrogantly show it to his wife, either in the form of didactic instruction or in ordering her to do as she was told without protest or whumper. It so happened, however, that she too thought she was or could be something. Each time she made an attempt to manifest her individuality, to do something original and entirely apart from his field, he fatherly came upon the scene, occupied it all and began his "teaching" even where he knew nothing. Result the woman, tired of fighting, broke down mentally and the marriage went on the rocks.

One political leader lived for thirty years with his wife. They had a daughter. I knew them fairly well and I felt that there was something the matter with their marriage, without guessing just what. In the presence of strangers they were nice to one another. But the war between them—albeit silent—broke out late in life and then I learned about the trouble. The woman was entirely opposed to having sex intercourse with him—"with any one," she said, and their relations occurred very rarely and, on her side, reluctantly. She was not a homosexual. She was asexual, although anatomically, as far as could be ascertained, normally built. She told him repeatedly to look for another woman. She would have had no objection to his having one more apartment for that purpose. There had been no quarrels. She claimed to have nothing but friendship for him. But he could not think of another woman and finally he became mentally sick.

A man of fifty whose wife, much older, had deceived him successfully from the beginning as to her age. He had been happy with her. She always mothered him. He was her creation, her toy. Although the sex life she gave him was never exciting, that did not matter, as he did not know any better. But as soon as she stopped receiving him at all he made a discovery: "what sex relations really meant." He discovered this in the arms of a much younger female who seemed to be versed in all the devices and artifices of the trade. There was zest and enthusiasm. He became cold to his wife—indeed, he resented her having kept him in too great decency and having denied to him the Elysian delights. She was the one to collapse mentally. It was interesting to watch, not only her psychic change, but her physical metamorphosis as well. She had had a well formed body and, long ago, an attractive face. Her smile had been her forte. Her poise had enmeshed her partner more than any thing else. Her facial adaptation to a previous age, for the last twenty years, was her own special secret—a studied work of art. But now it could be seen how superficial it was after all and how transparent the disguise. Unhappiness tore down the mask—and her wrinkles were there. Her cheeks were sucked in and her lips pouted out, and a fine tremulousness of her fingers betrayed her age more than other symptoms. Remember Goya's caricature? But she cured herself quickly. She did not want her husband to leave entirely. So she gave one leap, made a somersault, and was her old self again. Her face became cheerful as before and she assumed her previous patronizing attitude toward him. Without a word she made him understand that she approved of his departure and that she was willing to let him take elsewhere what she could not give him. He was thankful, interpreting her behavior as devotion derived from real love.

A woman complained of various incoherent symptoms which, upon thorough investigation, were found to be due to lack of sexual satisfaction. Intercourse was

gratifying, but it occurred at very rare intervals. She had been treated for all sorts of nonexistent illnesses and finally, when a neurologist correctly diagnosed *hysteria*, the work stopped there. As no ailment can be treated with a mere diagnosis, this patient went from bad to worse. She suffered more because she *expected* frequent intercourse than because she needed it—more because she felt neglected than because she desired the contact so often. Her husband, when confronted with her, was astonished. He never suspected that *he* could be the cause of her suffering. Then he showed how impossible it was for him to act otherwise. Ever since he had his new job, he said, he left very early in the morning, worked hard a long day, came home exhausted in the evening, and promptly went to bed and to sleep. On Sundays he was still tired from the entire week. This explanation started the cure which made rapid progress until the patient was almost normal.

Among the many practical things which can find no place here but which can keep people away from serious pitfalls, I wish to emphasize the following few facts that may have their share in preventing mental maladjustment.

Mostly an interval of a few days between one intercourse and the next is advisable. Not merely for the sake of health is it necessary to avoid too frequent intercourse, but also for the purpose that the intercourse itself be more passionate and more satisfactory for both participants.

Even the most normal person may need a temporary, more or less protracted, rest from intercourse. This should not be interpreted as impotence. On the contrary, its natural aim is to prevent impotence, by rest, by shunning excess, and coitus during fatigue or exhaustion.

The necessity for rest may arise from actual excess or sufficiency of the intercourse itself, the desire of a temporary mental dissociation from one's partner, an existing transient unfriendliness or enmity between partners, or, finally, concentration in another direction, as

for the purpose of social activity, study, invention, writing literature or poetry

Of course, such a cessation of sex intercourse, while necessary to one partner, may be disagreeable to the other. Or there may be a misunderstanding, the other partner, or even the one principally involved, believing that the condition is permanent. Therefore, a frank, intelligent talk on the question between the partners may be of great help. If not, very unpleasant and sometimes unalterable, disastrous, results may follow.

But, as already previously implied, not only do unadjusted marriages provoke conflicts that lead to mental disorders or awaken dormant or potential tendencies to mental trouble, the reverse is also true. Psychopathic individuals in married life may cause its disruption, a cause which is so self-evident that it needs no further emphasis.

Or we see cases where both situations may coexist and destroy a marriage as well as a mind. One example will suffice to illustrate this state of affairs.

He is a recognized and professional writer. She—an amateur and unknown would-be or real composer, always haunted by paranoid thoughts—has never succeeded in having anybody but herself play her compositions. When she does so in the presence of others, some of her friends have a meaningful smile and, when pressed to offer an opinion, say, "Cute." It is true that she has been constantly and energetically—perhaps cruelly—discouraged by her husband. He is always telling her that she is wasting her time, that she has no talent at all, and

that she is making a fool of herself. He often forbids her to touch the piano and relegates her to the kitchen. Gradually, and after her hopes to get a public hearing have waned, she develops her pre-existing mental abnormality into a full psychosis. "Her husband, who is applauded in the press, well rewarded by publishers of books and periodicals, and adulated by admirers, is jealous of her greatness. He is afraid that if she becomes famous, she might obscure him by overshadowing." From this to the belief that "he has other women, that he is using some poison to get rid of her or at least to make her insane and commit her to an asylum," there is but one step. Inner voices begin to confirm this conviction and she wavers between killing her partner or committing suicide. Could this illness have been prevented? While her innate trends were incurable they might have never extended very far if this patient's husband had treated her in a more sympathetic and encouraging manner. Why not praise anybody who is making a sincere effort? Why not allow anybody to unfold any capacity?

I have seen somewhere a statement to the effect that it is better to fail in everything else and to succeed in home life than to succeed in everything else and fail in home life. This may be exaggerated, but it contains much truth. I would rather put it this way: inability to make marital life a success, where it is due to neglect or ignorance and not to disease or to social conditions, is at least as important a failure as any other great failure in life.

207 West 106th Street

#### BEAUTY ON THE BUDGET

The following bit of sarcasm appeared in Claude Callan's column, "Folks and Foibles," in a recent issue of the *Kansas City Times*:

"Why can't we have government beauty parlors furnished equally to all women? The government is planning to take charge of the health of the whole people, and surely no woman considers health as important as beauty. Under the present system of private ownership of

beauty parlors and private manufacture of beauty sauces, some women are able to buy all the beauty on the market, while some must be satisfied with soap and water on their faces. As a result some are always in the happy disposition of being beautiful enough to break up homes, while others are in danger of having their homes broken up. Let the government take over beauty and dispense it with a lavish and impartial hand."

# Public Health Notes

J ROSSLYN EARP, L R C P, Dr P H  
New York State Department of Health

## Report for 1938

It is usually well into the second half of the year before our annual report for the preceding year can be printed. The Commissioner of Health is, however, required by law to submit annually on or before the first of March a report to the Governor which shall set forth the action of the department and other useful information. This typewritten brief contains several noteworthy items.

In the field of sanitation, Mr C. A. Holmquist reports that work has been commenced in 52 new sewage treatment works while 10 such projects were completed during the year. When the new works are in operation 78.4 per cent of our upstate population will have their sewage properly treated. This is more than double the population that was so served only ten years ago. Another year has passed without any outbreak of typhoid fever being traced to a public water supply. The state has been clean in this respect for ten successive years. The milk supply is not yet so safe. An outbreak of typhoid fever at Esperance resulted in a local ordinance requiring the pasteurization of all milk and cream to be sold or offered for sale.

The Tuberculosis Division reports a decline in the tuberculosis death rate from 42 per 100,000 in 1937 to 39 in 1938. They make the following recommendations for more complete control of this disease:

1. Some form of financial assistance to families in which there is tuberculosis. Poverty fosters disease both by reducing the budget for food and by the worry which it promotes in the whole family.

2. Progressive case finding by means of x-ray examination of the adult population, especially persons between the ages of twenty and forty. It is in these age

groups that tuberculosis is still the leading cause of death, being responsible for more deaths than heart disease and pneumonia combined.

3. Liberalization of the policy governing payment for hospitalization. The pauperization of families resulting from the method of payment adopted in some localities at the present time for hospital treatment of persons who need such care and who are segregated for the protection of others, is a menace to public health and is poor economic practice.

4. Provision for the re-absorption into industry of patients who have recovered. More complete rehabilitation and more suitable working opportunities and conditions should be made available.

5. More intensive public health education. This is vitally needed if superstition and ignorance are to be replaced by an intelligent public attitude toward the prevention and curability of the disease.

6. More public health nurses. Additional personnel of this type is essential in the prevention and control of tuberculosis in the home.

7. Extension of research to include all administrative and scientific phases of the tuberculosis problem. Economies cannot be realized in the future unless further knowledge of the factors influencing the disease is made available.

Pneumonia cases and deaths both decreased markedly, and a consideration of the case fatality rates indicates that the reporting of pneumonia has improved and perhaps also that treatment has been more successful. The program of professional education carried out in co-operation with the State Medical Society has been continued. One hundred and thirteen meetings have been held, at



which there was a total attendance of 1,958 physicians. There has been an increase in the use of type specific serums.

Forty-three new typhoid carriers have been added to the register. Twenty-seven of these were discovered through epidemiologic investigation of sporadic cases, 10 by means of release cultures, 3 through attacks of acute cholecystitis, 1 through an attack of acute cystitis, 1 through a costal osteomyelitis with typhoid bacilli present in the discharging pus, and 1 through investigation following the discovery of a positive Widal reaction in a specimen of blood submitted for another purpose. The total number of carriers on the register is now 412.

The number of cases of diphtheria reported in 1938 is the smallest on record. Thirty counties have no cases as compared with 18 such counties in 1937. In the large cities diphtheria is almost under control. Buffalo had 12 cases and Rochester 7, in 1927 there were 737 cases in Buffalo and 505 in Rochester. Of 74,586 individuals reported as having received active immunization, 45,915 were children under 5 years of age. The figures in this paragraph are subject to revision in the final report.

Since the enactment of the Desmond and Twomey bills requiring submission of specimens from applicants for marriage licenses and from pregnant women, the number of serologic examinations made in the laboratory has increased by 63 per cent.

At the end of the year 170 cases of syphilis had been discovered upstate as a result of premarital examinations, and reports on 85 patients were pending. One hundred and twenty-six cases had been found as a result of prenatal examinations, and reports were pending on 23. There were 4,860 new admissions for syphilis to upstate clinics during the year.

The State Institute for the Study of Malignant Disease has provided diagnosis or treatment for 38,628 patients, and has submitted reports on 10,623 specimens of tissue sent to it by physicians throughout the state. They have carried on an ex-

tensive educational campaign having provided lectures on cancer to popular audiences totaling about 25,000 people.

The Narcotics Bureau has also engaged in an educational campaign, using films to demonstrate to audiences of specially interested individuals the characteristics of the hemp weed. Seventy-two thousand, three hundred and twelve pounds of Cannabis have been destroyed, 2,000 pounds of viable seeds have been confiscated, and more than 4,000 marihuana cigarettes have been seized. In the years 1935 to 1938 inclusive, 458 tons of marihuana have been destroyed.

The Public Health Nursing Division reports an increase of only 28 nurses employed by county boards of supervisors. Although this leaves the service disappointingly inadequate, Miss Sheahan believes that there is a better understanding throughout the state of the handicap which all public health work must suffer through this deficiency.

### Lead Nipple Shields Prohibited

On January 20 the Public Health Council amended the Sanitary Code by inserting a regulation which prohibits the sale or use of metal or foil breast nipple shields made of or containing lead. The regulation went into effect on February 1.

"Health News" announced that this regulation had been passed "following the death of an infant from lead encephalitis." The authorities at one hospital where lead shields are used have expressed some surprise that so drastic an action should have been taken on the basis of a single case. The case in question was, however, quite definite. It will be published shortly by Dr. Murray H. Bass, whose report will show that lead was found in large amounts in the infant's blood and urine. The death of a child was hardly necessary to prove the existence of a hazard of lead poisoning. The manufacturers claim for the shields that they prevent and cure sore nipples by means of a solution of lactate of lead in which the nipple is immersed. If the mother's nipple is immersed in lactate of lead it is quite evident that her child is in danger of absorbing

lactate of lead with the mother's milk. Colic, even convulsions, in an infant would not readily be attributed to lead poisoning, especially if the attending

physician is unaware that a lead nipple shield is in use. The hazard is certainly present and poisoning may have been more frequent than anyone knows

#### DOCTORS URGED NOT TO OVERDO SCIENTIFIC TESTS

Dr Walter C. Alvarez of the Mayo Clinic Rochester Minn. warned 300 of his colleagues on January 13 that the greatest curse of modern medicine is the desire of many doctors to employ elaborate laboratory tests and x rays to detect ailments when the simple process of talking to patients, observing their symptoms and studying their case histories would often accomplish the same or even better results. He spoke before a regular Friday afternoon meeting at the New York Academy of Medicine, 2 East 103rd Street.

Dr Alvarez, who is regarded as one of America's outstanding diagnosticians, attacked the belief which he said was current among medical men that all sorts of laboratory tests must be done for every case that comes our way. He urged doctors, instead to use your eyes, ears, fingers and wits and you will often find there is no need to waste time and patients' money in elaborate clinical explorations.

'I spend a great part of my time fighting with young physicians and assistants who have been trained in the best medical schools of the country to keep them from giving patients complete overhauls where they are not necessary. This laboratory examination technique is often valuable, but there are definite common-sense limits to its use. Many diagnosticians who use it extensively would do better to go back to the medicine of their fathers.'

Dr Alvarez's subject was Functional Digestive Disturbances, and he outlined the case histories of many of his patients whom laboratory tests showed to be suffering from ulcers, gallstones, colitis and similar digestive tract ailments. He recalled dozens of these cases where dangerous and expensive operations to relieve these troubles would not or did not materially help the patients.

'By simple, old-fashioned diagnosis—conversation and probing of family and individual history—I have found many of these people to have nervous breakdowns, neuroses or even mental troubles which led to their suffering. Removing the minor functional ailments shown up by x rays and laboratory tests could do nothing to relieve the fundamental causes of their complaints,' he said.

Dr Alvarez recalled a story about the reaction of Dr Oliver Wendell Holmes when he found one of his patients reading a medical book in a Boston library. Dr Holmes, according to Dr Alvarez, tapped the man on the shoulder and remarked, 'You had better not do that old fellow some day you'll die of a misprint.'

Many people are dying today from misprints, in the form of misleading laboratory diagnoses, Dr Alvarez added. Disease and functional troubles which might never cause trouble are brought to light and nervous patients worry themselves to death.

#### NEW FILM GLORIFIES THE RURAL M D

The country doctor who has won the public's heart in recent 'best sellers' is now making his appearance in the flickering films. The courage, unselfishness and public spirit of an unassuming rural physician, and his effect on a little town after twenty years of ministering to it, forms the principal theme of a new RKO Radio Picture entitled 'A Man To Remember.' Edward Ellis, one of the screen's best known character actors, has the finest role of his career as the doctor hero of this unusual story based on Katherine Haviland Taylor's 'Failure.'

The contrast between the doctor's generosity and the penny pinching, short sightedness of the town's business leaders, coupled with the romance between the doctor's ambitious son and his ward, are two phases of the story that help make up its general human appeal. Various incidents of the doctor's career are dramatized in what might be termed 'chapters,' each suggested by some paper found among his possessions when he dies, and each leading up to the final triumph of his life in the little town that learned to love him.

# The Woman's Auxiliary

To the Medical Society of the State of New York

## Nassau County

The regular monthly meeting of the Woman's Auxiliary to the Medical Society of the County of Nassau was held in the Auditorium of the Nassau Hospital on January 31, 1939. Mrs. Luther Kice of Garden City presided. Each committee chairman reported on the work her committee was doing. Following the business session, Mr. Dwight Anderson, Director of the Public Relations Bureau of the Medical Society of the State of New York, gave an interesting talk on "What Every Woman Knows."

Mrs. T. Maloney and Mrs. Henry Smith were hostesses at the tea which followed the meeting.

## Onondaga County

A meeting of the Woman's Auxiliary to the Medical Society of the County of Onondaga was held on February 7, 1939, in the home of Mrs. H. G. Weiskotten. The guest speaker was Dr. C. Grove Haines of the history department of Syracuse University. His subject was "Italy of Today." An interesting discussion followed.

## Queens County

A dessert-bridge was held by the Woman's Auxiliary to the Medical Society of the County of Queens on February 8, 1939. The auxiliary members and their friends enjoyed a very delightful afternoon party arranged by Mrs. Robert Yanover, chairman of entertainment, and her committee. It was gratifying to the president, Mrs. William Lavelle, to see so many present for it was the first social function of the year. Mrs. Lavelle spoke a few words of greeting to the members and guests and hoped that she would welcome them again at other affairs.

## Rockland County

A meeting of the Woman's Auxiliary to the Medical Society of the County of

Rockland was held on January 17, 1939, at the home of Mrs. S. W. Toms in Nyack. Mrs. J. C. Dingman presided for the first time. Reports of the year's work were given by the various committee chairmen. Subscriptions to the magazine *Hygeia* had been placed in nine libraries in the county by the Auxiliary. The guest speaker of the afternoon was Dr. Harold Heller, chairman of Economics of the Medical Society of the County of Rockland, who discussed "Socialized Medicine and Its Effect upon Doctors."

The Auxiliary sponsored an essay on "Cancer Control" in the high schools of the County and gave three prizes.

A social hour followed the business meeting and program.

## Schenectady County

The Woman's Auxiliary to the Medical Society of the County of Schenectady met at Sunny View on January 24, 1939. Mrs. W. Howard Pillsbury gave a talk on "Current Literature."

On February 6, Mrs. A. H. Congdon was hostess to the Executive Board of the Auxiliary. Programs for the February meeting were discussed.

---

## Letter from Mrs. John J. Buettner, Chairman of Convention

"With spring but a few weeks away, the time has come to remind you of the convention of the Woman's Auxiliary, to be held in the Onondaga Hotel, Syracuse, April 24-26, in conjunction with the 133rd Annual Meeting of the Medical Society of the State of New York.

"The wintry days have found us busy in preparation, and we have planned many attractive and enjoyable events. You will find meetings profitable to attend, and of course you will want to devote some time to the Hobby Show, which each year includes a wide range of interests. Why not send us an exhibit?"

"On the evening of April 24 will be the delegates' dinner, to which we cordially invite all physicians' wives and their friends

"This will be a delightful evening, especially with such an outstanding entertainer as Henry Scott, pianist and humorist. A product of Syracuse University, Mr Scott has met with acclaim in many cities.

"There are several other features about which we will tell you later

"Mrs Daniel J Swan, your state president, will be happy to greet you and all physicians' wives, and you will meet many friends, old and new

"Please come, and do not fail to register with the Woman's Auxiliary of the Medical Society of the State of New York."

#### "BEST HEALTH RECORD IN HISTORY"

A record low death rate of 10.8 per 1 000 population and the highest birth rate in four years gave New York in 1938 what the State Department of Health terms its "best health record in history"

Dr J V De Porte, director of the State Bureau of Vital Statistics, reported a 1938 birth rate of 14 per 1 000 population and said births increased 8 000 over the previous year while deaths dropped 7 000

"The absence of extremes in weather, despite the tropical hurricane of September 21 and the relatively low occurrence of most of the serious communicable diseases" he added were main factors in the uncommonly high level of the physical well-being of the people of the state'

Dr De Porte said infant mortality last year forty-one deaths per 1 000 live births was 9 per cent under the 1937 record while maternal mortality thirty-six deaths per 10,000 total births represented a 41 per cent decline over five years

Discussing deaths from causes associated with childbirth Dr De Porte said, it is impossible to ascertain all of the causes of the recent precipitous drop in the New York State rate.'

There is general agreement that newly developed procedures in the treatment of morbid puerperal conditions were responsible for a considerable share of the improvement, he added, and that without doubt better obstetrical practice has also been a factor of decided importance'

He said the heart disease group with a record high mortality rate of 350.4 per 100 000 population was the leading cause of death at all ages' in 1938 with cancer 148.9 also a record mark second in importance.

The death rate from influenza, 3.6 was a record low while pneumonia 61.3 was 27 per cent below the 1937 rate. Other low marks were reported for tuberculosis all forms, 48.2 typhoid and paratyphoid fever 0.4 and homicides, 3.1. Suicides were 15.8 the same mark as in 1937

#### ANNOUNCEMENT OF VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the association which will be held in Cincinnati, Ohio on May 22, 23 and 24 1939 providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations should not exceed three thousand words in length must be presented in English, and a typewritten double

spaced copy sent to the Corresponding Secretary Dr W Blair Mosser 183 Biddle Street, Kane Pennsylvania, not later than April 15 1939. The Committee which will review the manuscripts is composed of men well qualified to judge the merits of the competing essays

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication however in any journal selected by the author

# Medical News

## General

**T**HE radio listeners had an opportunity to hear a fine discussion of the subject "Do We Need a National Health Program?" on February 5. What is known as the "People's Platform," under the leadership of Lyman Bryson, brought together Dr Clarence G Bandler, past president of the New York County Medical Society, Dr Thomas P Farmer, of Syracuse, chairman of the Public Health Committee of the Medical Society of the State of New York, Dr Michel M Davis, chairman of the National Committee on Research and Medical Economics, and Dr Kingsley Roberts, director of the Bureau of Co-operative Medicine.

Mr Bryson directed the discussion by saying that "What the public wants to know is whether we are as healthy as we might be. They have a suspicion that the people could be healthier if American resources for health were used better."

Dr Roberts agreed, and said "Why not try some method for doing it?"

To this Dr Bandler replied "That, of course, is the great aim of the entire medical profession. We are elaborating plans, we have been elaborating plans." America's unrivaled health record was then cited by Dr Farmer, who added that "despite what we have accomplished, we should nevertheless try to do more. On the other hand, with this record, we should be very very careful in making any change."

A widespread "dissatisfaction with the financial aspects of medical service" was brought up by Dr Davis, who had found a feeling that "the present system of paying for medical care doesn't deliver the service, despite the fact that we all know the doctor wants to give it." There is an undeniable "need for expansion of medical care," stated Dr Roberts.

This was frankly admitted by Dr. Bandler, but he pointed out that "the facilities throughout these United States, in every one of the 48 states and terri-

tories, are there, and doctors can very well distribute those services largely through the medium of their county societies and their state organizations, and I feel that we do not need any further supervision for the purpose of dispensing more service."

"Why is it," asked Dr Roberts, "that organized medicine, or whatever you want to call it, constantly has fought attempts at new methods to bring medical care to the lower income groups?"

"That is a very unfair statement," exclaimed Dr Farmer. "I don't think organized medicine has ever fought new methods. It wants the American people to have the best medical care possible. It does not want to give up a method it is using now, which has produced such fine results, for some untried system that worked well in some foreign country different from ours."

"As for a national health program, we have one now," remarked Dr Farmer a little later. "We do have a national health program. This is an expansion of our present program, and that is something the public really ought to realize, and I am afraid they are forgetting. One of the first duties, I think, in our national health program should be a co-ordination of all present agencies that we have to deal with health and disease, and that should be the first step in any program we have."

"I'm surprised," put in Mr Bryson, "that the issue of the personal service of the physician to his patient doesn't arise in a conversation of this kind."

"Well, Mr Bryson," replied Dr Bandler, "at the present time physicians are contributing in service, summed up in dollars and cents, about a million dollars worth of service, each and every day. They're doing that voluntarily. They're doing that through the medium of existing agencies, and by their own personal effort. If there were a form of compulsory health insurance, or any compulsion, I doubt

very much if that voluntary one million dollars worth of service each day would still be forthcoming. It would have to be paid for by the government."

"That would raise the cost of service

to the people," remarked Dr. Farmer. "Undoubtedly," agreed Dr. Roberts.

The broadcast lasted thirty minutes, and only the high spots of the discussion are given here.

## Counties of New York State

### Albany County

Dr. Russell L. Cecil, Professor of Clinical Medicine, Cornell University Medical College and Associate Visiting Physician, New York Hospital, spoke on "The Modern Aspects of Pneumonia Therapy," before the Medical Society, County of Albany, on February 15.

### Cattaraugus County

The first of a series of lectures and demonstrations on pediatrics and specialized subjects of medicine was held on January 15 in the staff room at St. Francis Hospital, Olean, under the auspices of the Cattaraugus County Medical Society, arranged by its Maternal Welfare Committee.

The County Medical Society has extended an invitation to all members of nearby societies to attend the series, at which the lectures will be given by outstanding authorities of the State Society.

The subject discussed on January 15 dealt with the responsibility of the family physician in preventing behavior problems. Dr. Marvin Israel, Buffalo, was the lecturer.

Dr. Jacob E. K. Morris, of Olean, died at his home there on January 23, at the age of eighty-two. The *Olean Times-Herald* concludes an editorial tribute by saying:

"He was a good citizen—an American gentleman in every sense of the term. Olean will miss him. Another 'beloved physician' has passed on."

He began practice there in 1886.

### Chautauqua County

"Mental Diseases and Their Management," was discussed by Dr. Earle V. Gray, superintendent of the Gowanda State Homeopathic Hospital, at a dinner

meeting of the Jamestown Medical Society on January 28 at the Hotel Jamestown. Dr. Homer M. Wellman, president, presided. A discussion followed the address.

"Social Medicine," was discussed on February 23 by Dr. Joseph S. Lawrence, state executive officer, New York State Medical Society.

Other meetings of the society are scheduled as follows:

March 30—"Common Abnormalities Seen in Patients before and after Operations," Dr. Frederick A. Collier, professor of surgery, University of Michigan, Ann Arbor.

April 25—"Gynecology," speaker to be announced.

May 25—"Urinary Infections and Their Management," Dr. Oscar J. Oberkircher, Buffalo.

June 20—Spring golf tournament, election of officers, Moon Brook Country Club.

All meetings, with the exception of the last named, are scheduled for the Hotel Jamestown.

Officers of the society are: president, Dr. Homer M. Wellman, vice-president, Dr. Henry G. Morris, secretary-treasurer, Dr. Darwin C. Perkins.

### Errie County

The following program for this year was presented by Dr. Carlton E. Wertz, the new president of the Medical Society, County of Erie, in his inaugural address before the society on January 18.

1 To create fellowship and understanding among our members.

2 To create a better feeling with the public.

3 To encourage and co-operate with the Buffalo Department of Health in all

public health matters and preventive medicine

4 To encourage postgraduate instruction

5 To put into operation as soon as possible the nonprofit Medical Indemnity Insurance

6 To continue efforts to obtain compensation for the care of the medically indigent as voted by the society

7 To enlarge the society's office, provide needed new equipment, and full time help in order to provide members with more and better services

8 To establish a lay grievance board to listen to and settle in friendly manner all disputes in regard to bills or other complaints

9 To counteract the unwarranted attacks on the profession, the need for a publicity agent is great to keep the public informed as to the good work being done by organized medicine in education, preventive medicine, higher educational and postgraduate standards, and its willingness to punish its own members if the occasion arises. This is all being done for the welfare of the general public

10 To oppose further progress of the hospitals in the practice of medicine. Hospitals should assist, not compete with private physicians

Some of the groups advocating governmental control of the practice of medicine are sincere, but others are "very definitely crackpots," Dr Arthur W Booth of Elmira told the Erie County Medical Society at a meeting in Buffalo, on January 16, as reported in the *Elmira Star-Gazette*

Dr Booth, a trustee of the American Medical Association and former president of the Medical Society of the State of New York, was the principal speaker at the Buffalo meeting

"The recent proposal of governmental control of the practice of medicine as an efficient means of providing what is lightly called 'adequate medical care for all the people' is the culmination of several years of discussion and agitation by various groups of ambitious welfare workers and

professional social uplifters," declared Dr. Booth

"Some of them are sincere and others very definitely crackpots"

Already beset by controversy which has impeded progress, the Erie county welfare department's elaborate \$245,000 plan to pay Buffalo physicians for treatment of the indigent sick has struck another snag threatening to disrupt the scheme, reports the Buffalo *Courier-Express*

The local relief administration discloses that the state welfare department has served notice it will not reimburse the county for a large portion of the projected expense. Thomas W H Jeacock, county welfare commissioner, revealed that he has been so informed by Harold S Tolley who is local area director for the state agency

At the same time, Mr Jeacock warned that the ultimate result of the state's stand may be scrapping of the whole proposal. He expressed the hope that such an end could be avoided by adoption of a different scheme

From sources close to the Board of Supervisors came strong indications that the board would not approve any setup which carried such a large part of non-reimbursable cost.

Briefly, the plan contemplates the payment of doctors for services given to the city's 85,000 home relief clients at definite rates of \$2 per home call and \$1 per office call. No practitioner would be paid more than a total of \$50 in any one month

Welfare recipients in Buffalo are now treated free by the medical profession, although doctors in the rest of the county have been receiving fees from the welfare administration for some time

Dr Lous Hamman, of Baltimore, addressed the Section of Medicine of the Buffalo Academy of Medicine on February 8 on "Chronic Infections at the Bases of the Lungs," and on February 15 the Section of Obstetrics and Gynecology heard Dr A D Campbell of Montreal, on "The Damaged Birth Canal and Its Repair," and Dr Milton E Kahn, on

## "Recently Recognized Special Ovarian Tumors"

### Fulton County

Dr Edward K. Cravener, of Schenectady, was guest speaker at a meeting of the Medical Society of Fulton County, held in the Hotel Johnstown, on January 19. He spoke on "Treatment of Fractures of the Forearm."

Dr James A. Shannon, newly elected president, conducted a brief business session and introduced the visiting physician.

Refreshments were served. There were thirty five members in attendance.

### Greene County

The proposed public health nurse project for Greene County was endorsed for a trial period of one year at the meeting of the Greene County Medical Society on January 10.

Sponsored by the Greene County Tuberculosis Association, of which Miss Mary A. Deady is now president, the public health nurse program calls for three nurses to be employed by the county, in addition to the two now on duty.

The Medical Society discussed the situation with Dr Ingraham, local representative of the State Department of Health, and decided to recommend to the Board of Supervisors the plan of employing the three public nurses for a trial period of one year, at the end of which time the real value of their services will have been determined.

### Kings County

Dr Philip I. Nash, newly installed president of the Kings County Medical Society, condemns the present procedure of naming laymen to lunacy commissions, and urges the society to take the initiative in the drive to have the panel composed only of medically trained men.

Addressing more than 500 doctors in the association's headquarters, 1313 Bedford Ave., on January 17, Dr Nash said that the borough medical group must take the lead in the matter and not wait

for the laity to introduce laws that become strictly medical.

"The system in our courts by which lunacy commissions are appointed," he said—"namely, one psychiatrist, one attorney and one layman—has not only been disapproved by the Brooklyn Bar Association but also by legislators and physicians acquainted with this subject."

"It is my belief that this commission should consist of a panel made up entirely of medically trained men, equally divided between qualified psychiatrists and other medical men who have had experience in the examination of mental cases."

Dr Nash, outlining a comprehensive program for organized medicine in Brooklyn, recommended establishment of a voluntary health indemnity plan which would adequately furnish medical care to borough residents and at the same time protect the interests of the doctor. He also suggested other public health activities, including an increase in the supervision of the milk supply of the underprivileged class.

Reasserting his platform of progressivism which elected him in the first contested election in more than a score of years, Dr Nash criticized the operation of the city's health centers and proposed remuneration and pensions for doctors rendering services in dispensaries and clinics.

Dr Judson P. Pendleton was given a dinner at the Hotel St. George on January 21 on his retirement as visiting pediatricist at the Coney Island Hospital and the Kingston Avenue Hospital after he had reached the age-limit of 65. The staffs of the two hospitals joined with the Coney Island Hospital Alumni Association in the testimonial.

The Doctors' Club of Brooklyn held its annual dinner-dance in the ballroom of The Towers Hotel on January 29.

Installation of the following newly elected officers took place: Dr Edwin A. Griffin, president, Dr Harry Mandelbaum, vice president, Dr Frank Moskowitz, secretary, Dr Siegfried Block, treasurer, Dr Leo Loewe, chairman of



the board of directors and Dr Karl Kaplan, vice-chairman of the board

Members of the Brooklyn Academy of Pediatrics attended a dinner on January 25 in the Hotel Granada. The dinner was followed by a scientific session in the Kings County Medical Society building, 1313 Bedford Ave.

Speakers included Dr Dorothy Andersen of the Babies Hospital, Manhattan, Dr Cornelius P Rhoads of the Rockefeller Institute, Manhattan, Dr Sidney V Haas of Manhattan and Dr Bernard Benjamin of Brooklyn. Dr Miner C Hill, president of the group, presided.

Dr John Bion Bogart, former president of the Brooklyn Surgical Society, and a founder of the American College of Surgeons, died in Middleton, Nova Scotia, Tuesday, January 17. Dr Bogart was seventy-nine.

For twenty-five years Dr Bogart was one of the leading consulting surgeons of Brooklyn, serving in that capacity at the Methodist Episcopal Hospital, where he was directing surgeon, at Kings County Hospital, at Coney Island Hospital, at Jewish Hospital, at the Brooklyn Home for Consumptives, at the Unity Hospital, and at the Wyckoff Heights Hospital, all in Brooklyn. Seven years ago he gave up practice in Brooklyn, returning to his native Nova Scotia.

Among the subjects upon which he published studies were the Aachen treatment of syphilis, empyema of the thorax in children, spinal anesthesia, and mammary tumors with metastases. One of his most notable achievements was the location of the point of entry of the scarlet fever germ in 1918.

Since 1926, when throat trouble made it necessary that his vocal chords be removed in a rare and delicate operation, Dr Bogart had appeared before scientific groups at intervals demonstrating a mechanical reed device for speaking on which he and the Bell Telephone Laboratories of New York collaborated. The device cost \$50,000 and made normal speaking possible.

## Nassau County

The Nassau County Medical Society on January 31 heard an address on "Serum Therapy and Chemotherapy in Pneumonia," by Dr Jesse G M Bullowa, physician, Harlem and Willard Parker Hospitals, consulting physician, New York Infirmary for Women and Children, Consultant in Serum Therapy, Long Beach Hospital.

## New York County

Dr Leopold Jaches, professor of radiology at Columbia University, who founded and later directed for thirty years the x-ray department at Mount Sinai Hospital, Fifth Avenue and 100th Street, died on January 23 at Mount Sinai Hospital after an illness of four months. He was sixty-six.

The Society of Medical Jurisprudence, on February 13, discussed the question "Should Euthanasia Be Made Lawful?" Speakers were Foster Kennedy, M D, Oscar Riddle, Ph D, and Charles E Nixdorff, Esq.

The Patrolman's Benevolent Association of New York City, Joseph J Burkard, President, has granted to Dr Charles J Dillon, chief surgeon, \$6,000 for the modernization of the x-ray plant at Police Headquarters.

## Onondaga County

The feature of the February 7 meeting of the Onondaga County Medical Society was a moving picture entitled "A Trip Around the World," taken by Dr Marshall W Dyer on his recent trip.

A full page article concerning the medical profession will appear in the Centennial Edition of the *Syracuse Journal* in April.

## Ontario County

Recommendations that the Ontario County Medical Society support a radio program over a two months' period, presented by the public relations committee, were approved at the first quarterly

meeting of the year, held at the U S Veterans' Hospital on January 10, with Dr Hans Hansen manager, and Dr Parker G Borden, clinical director, as hosts Dr A. W Armstrong, newly elected president, presided

Short talks by society members, with possible dramatizations, will be included in the 10-minute programs to be presented weekly over Station WMBO, Auburn, in the near future Dr Bryant C Hurlbutt, of Seneca Castle, chairman, Dr Don M. Griswold, district state health officer, and Dr Chauncey W Grove, both of Geneva, are the public relations committee investigating and promoting the project.

The next meeting, April 11, will be in Clifton Springs, and the July meeting in Geneva.

Dr William A. Groat of Syracuse, president of the Medical Society of the State of New York, was the speaker at the meeting of the Geneva Academy of Medicine, at the Geneva Country Club on February 16 Dr Groat's subject was 'Home Treatment of Diabetes Using the Newer Types of Insulin'

Dr John H Pratt, of Manchester, was elected president of the Canandaigua Medical Society on January 12 at the annual meeting in the home of the retiring president, Dr Robert M Ross, at Brigham Hall Dr Margaret T Ross remains vice president and Dr James F Maltman succeeds Dr C Harvey Jewett as secretary and treasurer

Following the business meeting and dinner, served to 17 members and one guest, Dr Robert J Stein, assistant physician at the Hall, Dr Ross gave the president's address His topic was "Importance of the Emotions"

#### Putnam County

Dr Frank Vero, assistant dermatologist, Vanderbilt Clinic, addressed the Putnam County Medical Society at the January meeting upon the subject "Common Skin Diseases in General Practice." The discussion was opened by Dr Camille

Kereszturi and the meeting was held at the offices of Dr Donald W Richie, Croton Falls, N Y

—Reported by John G Jenkin, M.D., Sec

#### Queens County

The Medical Society of the County of Queens, on January 31, listened to addresses on 'Current Economic Trends in Medical Practice' by Dr George D Wolf, author of *The Physician's Business*, and on "Refugees Unlimited" by William Alan Richardson, Esq, Managing Editor of *Medical Economics* Recent Friday afternoon talks February 3—'Adolescent Fractures of the Radius and Ulna and Their Treatment,' by Dr Donald Esterbrook McKenna, Orthopedic Surgeon at Brooklyn and M.E., Consultant Orthopedist at Swedish Hospital February 17—"Diagnostic Factors in the Disease of Gallbladder and Bile Ducts," by Dr Charles Gordon Heyd, Surgeon at Postgraduate Hospital

Dr John H Barry, who retired last fall after more than thirty years' service as Queens Sanitary Superintendent of the Department of Health, was the guest of honor, February 2, at the Long Island Medical Society's annual dinner at the Hotel Commodore, Manhattan

The Rockaway Medical Society gave an old fashioned beefsteak dinner on Thursday night, February 2, in the Lawrence Country Club

Dr Carl Boettger, president of the medical board and director of medicine at the Queens General Hospital, and president of the Queens Borough Tuberculosis and Health Association, died on February 1 at his home, 22 DeKoven St., Forest Hills, after a brief illness He was a former president of the Queens County Medical Society and of the Second District branch of the State Medical Society

#### Rensselaer County

At the January meeting of the Rensselaer County Medical Society Dr Hugh

V Foley, retiring president, delivered his farewell address

A paper on "Common Macrocytic Anemias" was read by Dr Crawford R Green

### Schenectady County

The Schenectady County Medical Society has been invited by the directors of Sunnyview Hospital to hold its meetings in the auditorium of the institution. At a recent directors' meeting it was decided to take the action in appreciation of the co-operation of members of the medical society in the work for crippled children at the hospital. Many members of the society are connected with the Sunnyview surgical and medical staffs

### Warren County

Members of the Glens Falls Academy of Medicine participated in a program on "Osteogenic Sarcoma," on January 26 in the Crandall Library Auditorium. The meeting was preceded by a dinner at The Queensbury

Dr Herbert A Bartholomew presented two cases of "Osteogenic Sarcoma." One of these cases Dr Bartholomew had followed after the death of Dr Conrad Hoffman, a fellow of the local Academy of Medicine. Dr John H Sheldon also presented a case of the same disease

Continuation of the subject was given by Dr Morris Maslon from the point of view of the pathologist, and by Dr Edgar Birdsall from the point of view of the roentgenologist. Slides and x-ray studies on the screen were shown in connection with these presentations

General discussion on the subject was given by Dr Leroy J Butler, Dr Jesse S Parker, and Dr Irving R Juster. Thirty-five physicians attended, most of them from the Glens Falls vicinity

### Westchester County

Dr Samuel A Levine of Boston addressed the Medical Society of the County of Westchester on February 21 on "The Value of Auscultation of the Heart"

Discussion was led by Dr Arthur F Heyl, of New Rochelle

Members of the Westchester County Medical Society, meeting on January 17, were informed of the development of a three-point program for the improvement and extension of medical welfare service to needy and low income groups

The comitia minora announced approval of a plan of medical welfare administration for relief clients to be put into effect in any and every welfare jurisdiction in the county where the local welfare officer and town board subscribes. This program provides for more general participation of physicians in welfare service and supervision of medical service by the County Medical Society, and it establishes a protected freedom of choice of physician for the welfare clients

The executive committee also announced that representatives of the society had presented its proposal for direct medical aid to needy citizens and a plan of voluntary medical expense insurance comparable to the hospital insurance plan at a public hearing of the State Temporary Legislative Commission to formulate a state health program in New York City on December 13, 1938

Dr Ralph T B Todd, of Tarrytown, the society's new president, announced steps to form a citizens' advisory council to confer with representatives of the society. The personnel of the council has not been announced

The White Plains Medical Society held a special meeting at the Gedney Country Club on January 24. Dr Robert C Towse was elected president, succeeding Dr Robert B Hammond. Dr John R Emery was elected vice-president and Dr Harry Klapper was re-elected secretary and treasurer. Doctors Dominic C McElligott and Robert B Hammond were elected to the Board of Governors for two year terms, and Dr Granville F Knight was elected a governor for one year to complete the unexpired term of

Dr Emery The guest speaker of the evening was Mr Clyde Trees, who presented an interesting discussion of the art and science of making medals

At a stated meeting of the Yonkers Academy of Medicine, held at the Amackassim Club, Wednesday evening, January 18, Dr Wilfred D Wingeback, of New York City and Bronxville, discussed the "Care and Treatment of Head Injuries"

In the executive session preceding Dr Wingeback's paper, the Board of Governors announced that a committee of three members of the Academy is to be appointed to confer with the Commissioner of Welfare and to seek a legal opinion from the Corporation Counsel as to the availability of city clinics for people of means, and also to determine what steps may be taken to put an end to what is considered the abuse of public medical

facilities by persons who can afford private medical attention

The Academy contends that free medical services have been made available to persons with both political influence and financial means to the detriment of truly needy persons

Dr William Clarkson Waggoner, fifty-seven, noted eye surgeon and resident of Ossining for the past 11 years, died suddenly at his home, "The Locusts," on Spring Valley Road, from a heart attack, on January 27

Dr George Quincy Johnson, who was medical officer of schools at Ardsley, N Y, died on January 23 at the Dobbs Ferry Hospital, Ardsley, where he had been president of the medical staff He was seventy nine years old

Dr Johnson had practiced medicine since 1882

### PREMEDICAL STUDY VIEWED AS WASTE

The lack of stringent educational standards in secondary schools and colleges is tending to produce doctors of "limited quality with the result that the medical profession 'has almost ceased to be a learned profession and has become instead a union of gadgeteers,' Professor Foster Kennedy of Cornell University Medical School told a gathering of neurologists on February 7 at the New York Academy of Medicine.

Everywhere in the country we are teaching young men and women between the ages of eighteen and twenty two matters which should have been learned between the ages of fourteen and eighteen," Dr Kennedy said. Our colleges, too are not sufficiently high minded in their requirements. The obligatory premedical B.A. has outlived its usefulness, and its ubiquity has led to its degradation.

Dr Kennedy urged the elimination of the present college course for men and women seeking to enter medicine. He said an examination that would eliminate the unfit and that would point to the men and women of high qualifications might serve as a means to choose qualified en-

trants for medical school. By saving the four years now expended in college courses, the medical man when ready to practice medicine, would be able to do so at an earlier age than is now possible and would have a longer time to make use of superior brains" Dr Kennedy declared

He said he was 'distressed' by the advanced age of those now beginning medical careers. He characterized as 'imposed infantilism' the present prolonged sojourn in the nurseries of the medical profession. He argued that schools and universities had been sacrificing quality standards to duration and that ritual education is devouring our youth by its great prolongation and intellectual sterilization."

Dr Kennedy concluded that the principal aim of education should be not toward factual stuffing, but toward a higher development of the thinking powers of men and women. For the prospective medical man sound principles cultured on a scientific outlook are far more important than any store of knowledge he held.

# Pneumonia Control

AT THE regular monthly meeting of the Nassau County Medical Society, January 31, 1939, Doctor Jesse G M Bullova read a paper on "Serum Therapy and Chemotherapy in Pneumonia" The discussion of this paper was opened by Dr Alexander D Langmuir, Medical Consultant, Division on Pneumonia Control of the New York State Department of Health On February 1 Doctor Langmuir held dry clinics, illustrated by motion pictures, before medical groups at the Nassau Hospital in Mineola, and the North Country Community Hospital in Glen Cove At noon he spoke to the Floral Park Lions Club which had invited other civic organizations of the community In the evening he addressed the regular monthly meeting of the Nassau County Public Health Nurses Association.

On February 2 Doctor Langmuir conducted dry clinics at the South Nassau Communities Hospital in Rockville Centre, and the Long Beach Hospital, and addressed a meeting of the Hempstead Kiwanis Club

On February 3 there was held at the Meadowbrook Hospital a pneumonia seminar consisting of ward and laboratory demonstrations covering the field of clinical and laboratory diagnosis, serum therapy and chemotherapy, a discussion of the care of the patient during the

course of the disease and convalescence, as well as the diagnosis and treatment of complications The seminar was concluded with a luncheon meeting at which Doctor Langmuir made an address More than fifty doctors registered for this seminar

In addition to this activity, the new drug sulfapyridine (m-b 693) is being used experimentally under carefully controlled conditions in Meadowbrook, Nassau, and North Country Community Hospitals, and the Pneumonia Committee is engaged in an attempt to work out a co-operative program with the Rockefeller Institute in the matter of virus type pneumonia

As a preliminary to this program, Doctor Raymond E Lease, of Oyster Bay, addressed the Glen Cove Rotary Club on January 31 on the pneumonia control program, and the front page editorial of the *Nassau Medical News* consisted of an article by Doctor Langmuir with an editorial comment calling attention to the fact that the New York State Pneumonia Control program originated as a project of the State Medical Society The fact was commented on that this elaborate program is an answer to the propaganda which charges that only through the communization of the profession can the doctors be made to interest themselves in the problem of preventing needless deaths

---

## MICHIGAN ACTS ON MEDICAL CARE PLANS

The House of Delegates of the Michigan State Medical Society, at a special session in Detroit on January 9, approved the principles of group hospitalization and group medical service and empowered the Society's Council, in co-operation with hospitals and civic groups, to proceed with plans for the formation of nonprofit organizations to provide these two types of service

The group protection would take the form of insurance with rates and benefits fixed according

to actuarial studies Rates for the hospitalization plan would probably range, for care in a ward, from sixty cents a month for a single subscriber to \$1.25 for a family Benefits would include twenty-one days' hospital care for the first year

For the suggested medical service plan, an employed subscriber would be entitled to a maximum block of units of service, with an alternative plan based on a time consideration.

# Medicolegal

LORENZ J BROSMAN Esq

Counsel, Medical Society of the State of New York

## An Unlicensed Practitioner of Medicine on Trial for Manslaughter

**I**N A case before the courts of one of the states on the Pacific coast, the question up for consideration was the circumstances under which a person not licensed to practice medicine, but assuming to do so, could be convicted of manslaughter when a patient under his care died.\*

The defendant, one K, was charged in two counts, first, with having unlawfully, feloniously, and through gross negligence and ignorance caused the death of one H, and second, with having unlawfully engaged in the practice of medicine in treating the said H without being licensed so to do. The case was tried by the court sitting without a jury, trial by jury having been waived, and K was found guilty of manslaughter, and also of the misdemeanor of practicing medicine without a license. He was sentenced to a penitentiary term for a maximum period of twenty years. The defendant appealed from the convictions.

The evidence as developed upon the trial indicated that the following was the fact situation:

The defendant was a so-called drugless healer, who held no state license to practice medicine. He used the title of "doctor" which he derived from schools of drugless healing which he had attended. It was his practice to prescribe various medicines prepared by some company outside the state, which he sold in the original package.

One H, a robust man of thirty-three years, who was engaged in heavy manual labor had been for three years a patient of a Dr A., a regular practitioner, for the care and treatment of the disease of diabetes mellitus from which he suffered. He had been required to follow a strict diet regulating the intake of carbohydrates, and had taken daily injections of

about fifteen units of insulin. He had seen the said physician every two weeks.

H called to see K, the defendant, and became his patient. He was given no physical examination but was questioned, and he told the drugless healer that he desired to discontinue the insulin treatments for his diabetes. He was told that K could cure the disease by his medicine, and that he should discontinue the insulin as his medicine would not mix with insulin. A new diet was prescribed by K, which did not regulate the intake of carbohydrates. K remarked upon the trial that "insulin is not human—it is not fit for any dog."

The same day as that visit, H went to Dr A. and learned that he was at the time "sugar free." He promptly discontinued using insulin, and two days later commenced taking K's medicines, in accordance with instructions furnished to him. In five days he was too ill to leave his home, and in another day he was in bed complaining of general numbness. The next morning Dr A. was called in and found him in a serious condition. He was hospitalized, placed in an oxygen tent, given glucose and saline with insulin. Blood sugar tests were taken, which proved to be so high that a reading could not be obtained. The patient died the following evening in spite of the efforts to save him, and his autopsy gave the cause of death as diabetic coma.

Upon the trial five experienced men from the medical profession testified that insulin with restricted intake of carbohydrates is the only known and accepted form of treatment for diabetes mellitus, and that H could not live without such treatment. K's own testimony was the only support given to the method he had pursued.

The Appellate Court in reviewing the

\* State v. Karrunk, 84 Pac. (2nd) 390

# Pneumonia Control

**A**T THE regular monthly meeting of the Nassau County Medical Society, January 31, 1939, Doctor Jesse G M Bullowa read a paper on "Serum Therapy and Chemotherapy in Pneumonia" The discussion of this paper was opened by Dr Alexander D Langmuir, Medical Consultant, Division on Pneumonia Control of the New York State Department of Health On February 1 Doctor Langmuir held dry clinics, illustrated by motion pictures, before medical groups at the Nassau Hospital in Mineola, and the North Country Community Hospital in Glen Cove At noon he spoke to the Floral Park Lions Club which had invited other civic organizations of the community In the evening he addressed the regular monthly meeting of the Nassau County Public Health Nurses Association

On February 2 Doctor Langmuir conducted dry clinics at the South Nassau Communities Hospital in Rockville Centre, and the Long Beach Hospital, and addressed a meeting of the Hempstead Kiwanis Club

On February 3 there was held at the Meadowbrook Hospital a pneumonia seminar consisting of ward and laboratory demonstrations covering the field of clinical and laboratory diagnosis, serum therapy and chemotherapy, a discussion of the care of the patient during the

course of the disease and convalescence, as well as the diagnosis and treatment of complications The seminar was concluded with a luncheon meeting at which Doctor Langmuir made an address More than fifty doctors registered for this seminar

In addition to this activity, the new drug sulfapyridine (m-b 693) is being used experimentally under carefully controlled conditions in Meadowbrook, Nassau, and North Country Community Hospitals, and the Pneumonia Committee is engaged in an attempt to work out a co-operative program with the Rockefeller Institute in the matter of virus type pneumonia

As a preliminary to this program, Doctor Raymond E Lease, of Oyster Bay, addressed the Glen Cove Rotary Club on January 31 on the pneumonia control program, and the front page editorial of the *Nassau Medical News* consisted of an article by Doctor Langmuir with an editorial comment calling attention to the fact that the New York State Pneumonia Control program originated as a project of the State Medical Society The fact was commented on that this elaborate program is an answer to the propaganda which charges that only through the communization of the profession can the doctors be made to interest themselves in the problem of preventing needless deaths

---

## MICHIGAN ACTS ON MEDICAL CARE PLANS

The House of Delegates of the Michigan State Medical Society, at a special session in Detroit on January 9, approved the principles of group hospitalization and group medical service and empowered the Society's Council, in co-operation with hospitals and civic groups, to proceed with plans for the formation of nonprofit organizations to provide these two types of service

The group protection would take the form of insurance with rates and benefits fixed according

to actuarial studies Rates for the hospitalization plan would probably range, for care in a ward, from sixty cents a month for a single subscriber to \$1 25 for a family Benefits would include twenty-one days' hospital care for the first year

For the suggested medical service plan, an employed subscriber would be entitled to a maximum block of units of service, with an alternative plan based on a time consideration

## Treatment of Obesity

A PHYSICIAN whose practice primarily consisted of obstetrics and gynecology was consulted by a woman about forty years of age who complained of gaining weight and being troubled by a tired feeling. An examination showed that the patient weighed 160 pounds which was an excess weight for her height and over a period of three months he prescribed for her condition. The medication, which he advised her to take, included lutein tablets, thyroidarian compound, and alphasitrophenol. With respect to the use of dinitrophenol, the physician gave her careful instructions as to the method of taking the capsules and the number of capsules to be taken. The patient finally came to the doctor and her weight was down to 143 pounds. She told him she was going to Europe and he advised her, at the time, that her weight was down far enough and she should discontinue taking the capsules as soon as she had finished using a prescription for fifty such capsules which he gave to her that day. He never saw the patient thereafter.

About two and one half years later, a malpractice action was instituted against the physician in which the charge was made that the defendant had been negligent in prescribing alphasitrophenol for the plaintiff. She claimed that at the time she left his care, he gave her a prescription for the said drug and that he advised her to have the same filled from time to time, as necessary, and to continue the use of the said drug. She

claimed in her complaint that the use of alphasitrophenol in accordance with the defendant's instructions continued for a period of nine months coming within the two-year period, before the case was commenced. It was further claimed that the drug caused injuries to her eyes requiring operative removal of cataracts.

Application was made to the Court at Special Term on behalf of the defendant to dismiss the complaint on the grounds that the action was barred by the two-year Statute of Limitations applicable to malpractice actions. The plaintiff's attorney contended that, although the defendant had not actually seen the plaintiff within the two year period, the plaintiff had taken the drug pursuant to his prescription well within said period of time and that under such circumstances the action had been commenced timely. The Court at Special Term ruled that, if the defendant in the case should be found guilty of malpractice, such malpractice occurred and was complete when the instructions were given and, therefore, dismissed the complaint.

An appeal was taken on behalf of the plaintiff to the Appellate Division from the said dismissal and said Court affirmed the decision of the lower Court. The plaintiff also applied for permission to carry the matter to the Court of Appeals but said Court declined to consider the matter further, thereby successfully terminating the litigation in favor of the physician.

## CORRESPONDENCE

To the Editor of the New York State Journal of Medicine.

I was very much interested in the article Across the Desk by W S W in our last Journal.

I began my practice in 1879 and am familiar with some of the happenings of those days before we became acquainted with the different breeds of Streptococcus, etc.

But W S W in the last part under the heading of Hitch up the Horse and Buggy' made

a very serious mistake when he speaks about boiling up Aunt Tibby's instruments. In fact no instruments were ever so honored as to be boiled. Most of the instruments used in those days were made with hard rubber handles and would have been twisted out of shape if boiled.

I trust that you will pardon me for the above correction, but it seemed necessary in order to uphold the dignity of our Professional Ancestors.

Fort Edward, N Y

Feb 3 1939

S J BANKER, M.D



# Across The Desk

## The Dragoons Are Riding

**W**HEN everything else fails, call out the dragoons. That is what Louis XIV did when any of his subjects did not agree with him. He "dragooned" them into submission, and his forcible persuasions were called the "dragoonades." The dragoons were so named because they carried "dragoons," a kind of carbine "breathing fire," like a dragon.

That was over two hundred years ago, and Louis the Magnificent is dead and gone, but the method still lives. When people disagree "dragoon" them, breathe a little fire on them, "turn on the heat," as we say now.

Few in this part of the country realize that while we are talking about social medicine, an agency of the Washington Administration has already set up such systems in no less than twenty states. While we debate, social medicine is springing into actuality. The dragoons are riding.

### Galloping into the Farm States

It is the Farm Security Administration, formerly Rex Tugwell's Resettlement Administration, that is setting up social medicine all through the farming areas. It is financing what amounts to state medicine for more than 100,000 families, as a part of its farm aid. In the Dakotas alone it is giving to about 77,000 clients medical, surgical, dental, and hospital care at \$2 a month a head, which the Farm Administration pays on an insurance plan. About 3,000 country doctors are enlisted and get 51 per cent of the money, hospitals receive 37 per cent, druggists 4, and dentists 8.

All this was told some weeks ago by Samuel Lubell and Walter Everett in an article in the *Saturday Evening Post* (December 17), entitled "Rehearsal for State Medicine." It was confirmed on December 15 when four officials of the Farm Security Administration presented themselves before the Council of the

Minnesota State Medical Association in St. Paul. Says *Minnesota Medicine*, organ of the Association: "These officials confirmed the astonishing extent of various types of medical services for Farm Security clients described in the article—declared that in each case the plan employed had been worked out by the local county or state medical society—asked the Council to work out some similar plan for care of the farm families of Minnesota who are now receiving loans from the Farm Security Administration."

### The "Four Horsemen"

Perhaps we may call these four officials the dragoons, or "four horsemen," of social medicine riding into Minnesota. Their spokesman was Dr. H. V. Meriwether, of the U. S. Public Health Service, and he gave figures differing from those in the *Saturday Evening Post*. There are now "thirty-two different plans in operation in thirty-two states," he said—an increase of twelve states since the *Post* article was written. That's speed. The plans vary, he explained, because the medical societies, in each case, dictated them, and he asked the Minnesota State Medical Association to devise a plan for Minnesota.

His reason, as he stated it, was financial. Many farm families in the lower income brackets, he said, lack medical and dental care, and when such families fail to make payments on their loans, "we find medical and dental problems in every case." "Clearly," he declared, "we can not continue our program successfully without provision for medical service for these farmers." Health is wealth, and the farmer who is able to work can pay something on his loans. Otherwise, otherwise.

### Who Pays, and How

Thirty-two different plans may seem like confusion, disorder, chaos, but it

seems that they really crystallize into two types—(a) individual arrangements, and (b) "pool," "insurance," or "cash indemnity" plans.

For an individual arrangement, there is Ohio. In that state the list of doctors who wish to participate goes to the farm clients, the client selects his doctor, and he and the doctor get together to find what the client needs. The Farm Administration provides the funds. In Logan County, Ohio, said Dr. Meriwether, all of the money is put in the hands of the Logan County Medical Society, and the Society's custodian of funds pays the doctors' fees on a pre-arranged schedule until the money runs out. "From then on it is between doctor and patient," but "the doctor must continue in attendance, no matter how the funds hold out."

Turning to the "pool" or common fund plan, the farmer pays a definite sum, about \$12 a year in the South, \$20 to \$30 in the Northwest, and he may call anybody in the Medical Society to take care of him. Once a month the doctor submits his normal fee, and if enough money is in hand, he is paid in full, if not, it is prorated. In actuality, about 72 per cent of normal fees have been paid. In several Iowa counties, the doctor submits to the County Society only an account of his services and the County Society sets the amount. Everything, in fact, is arranged by the County Society, "and I personally believe," declared Dr. Meriwether, "that all of these matters should remain in County Medical Society hands." "I like the Iowa plan," he repeated later, "by which the County Medical Society receives the money, prorates it to members, and disciplines its own members."

A separate problem is presented in North and South Dakota, for in those states "the doctors, as well as the patients, needed rehabilitation if the doctors were to remain in practice there." So the doctors suggested a plan, and the plan has been changed three times, and the

money appropriated has been increased three times. Medical bills are being paid on a 66 per cent basis. The doctors themselves believe, we are assured, that "they are going to work out something in Dakota that may ultimately be of benefit to all medical societies." With this preface, the spokesman for the Farm Security Administration asked the Minnesota State Medical Association to work out a plan for the medical care of its Minnesota clients. The Council referred the request for action to the Committee on Low Income and Indigent Problems, and we may hear more about it later.

### The Vital Flaw

However, even a layman can see the vital difference between this plausible set-up and the medical insurance plans now being started by the doctors themselves in various states. The California Medical Association is launching one, and a keen editorial writer of the *Los Angeles Times* pierces to the heart of the whole matter in these trenchant words:

"The immediate difference between state medicine as so practiced [by the Farm Administration] and the medical insurance plan which is being pioneered by the doctors and hospitals in California is that in the former the cost is defrayed in whole or large part by the government, and in the latter by the individual beneficiaries themselves.

Actually, the difference is that between political paternalism on the one hand, and independent self help on the other. The one is open to all the political abuses and chiseling which have made government relief a national scandal, the other, while yet to be tried on a large scale, is at least an intelligent effort to help the poor to help themselves.

The first would turn the Hippocratic profession into another tax financed government bureau, the second would extend its benefits to everyone without the taint of politics or charity."

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and the interest to our readers.

## RECEIVED

**Insulin Its Chemistry and Physiology** By Hans F Jensen, Ph D Octavo of 252 pages New York, The Commonwealth Fund, 1938 Cloth, \$2 00

**The Fundamentals of Internal Medicine** By Wallace M Yater, M D Quarto of 1,021 pages, illustrated New York, D Appleton-Century Company, 1938 Cloth, \$9 00

**Cancer with Special Reference to Cancer of the Breast.** By R J Behan, M D Quarto of 844 pages, illustrated St Louis, The C V Mosby Company, 1938 Cloth, \$10 00

**The Pathology of Diabetes Mellitus** By Shields Warren, M D Second edition Octavo of 246 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$4 75

**Refraction of the Eye** By Alfred Cowan, M D Octavo of 319 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$4 75

**And the Stutterer Talked** By A Herbert Kanter, M D, and A S Kohn, B A Duodecimo of 236 pages Boston, Bruce Humphries, Inc, 1938 Cloth, \$2 00

**Aids to Histology** By Alexander Goodall, M D Fourth edition 12 mo of 151 pages, illustrated Baltimore, William Wood & Company, 1938 Cloth, \$1 25

**The Technique of Contraception** By Eric M Matsner, M D Fourth edition. Octavo of 50 pages, illustrated Baltimore, The Williams & Wilkins Company, 1938 Paper, \$0 50

**Emotional Problems in Children Technical Approaches Used in Their Study and Treatment** By J Louise Despert, M D Octavo of 128 pages Utica, State Hospitals Press, 1938 Cloth, \$1 50

**The Principles and Practice of Medicine** Designed for the use of Practitioners and Students of Medicine. By the late Sir William Osler, M D Revised by Henry A Christian. Thirteenth edition Octavo of 1,424 pages New York, D Appleton-Century Company, 1938 Cloth, \$9 00

**The New International Clinics Original Contributions Clinics, and Evaluated Reviews of Current Advances in the Medical Arts** Edited by George M Piersol, M D Volume III,

New Series One Octavo of 341 pages, illustrated Philadelphia, J B Lippincott Company, 1938 Cloth, \$3 00

**The Spectacle of a Man** By John Cognard. Octavo of 252 pages New York, William Morrow & Company, 1937 Cloth, \$2 50

**The Principles and Practice of Obstetrics.** By Joseph B DeLee, M D Seventh edition. Quarto of 1,211 pages, illustrated Philadelphia, W B Saunders Company, 1938 Cloth, \$12 00

**Laboratory Manual of Hematologic Technic.** Including Interpretations By Regena Cook Beck, M D Octavo of 389 pages, illustrated. Philadelphia, W B Saunders Company, 1938 Cloth, \$4 00

**Surgical Pathology** By William Boyd, M D Fourth edition Octavo of 886 pages, illustrated. Philadelphia, W B Saunders Company, 1938 Cloth, \$10 00

**What's Wrong with Me?** By H Ameroy Hartwell, M D Duodecimo of 246 pages Weehawken, H Ameroy Hartwell, 1938 Cloth, \$1 00

**The Clinical Examination of the Nervous System.** By G H Monrad-Krohn, M D Seventh edition Duodecimo of 319 pages, illustrated New York, Paul B Hoeber, 1938 Cloth, \$3 00

**Practical Microbiology and Public Health.** For Students of Medicine, Public Health, and General Bacteriology By William B Sharp, M D Octavo of 492 pages, illustrated St. Louis, The C V Mosby Company, 1938 Cloth, \$4 50

**The Medical Applications of the Short Wave Current.** By William Bierman, M D Octavo of 379 pages, illustrated Baltimore, William Wood & Company, 1938 Cloth, \$5 00

**Medicine in the Outpatient Department. An Introductory Handbook.** By Winthrop Wetherbee, Jr, M D 16 mo of 111 pages New York, Paul B Hoeber, Inc, 1938 Cloth, \$1 00

**The Physiology of Anesthesia.** By Henry K. Beecher, M D Octavo of 388 pages New York, Oxford University Press, 1938 Cloth, \$3 75

**Carbon Monoxide Asphyxia** By Cecil K. Drinker, M D Octavo of 276 pages, illustrated

New York, Oxford University Press 1938. Cloth, \$4 50

**Silicosis and Asbestosis.** By Various Authors. Edited by A J Lanza, M.D. Octavo of 439 pages, illustrated. New York, Oxford University Press, 1938. Cloth, \$4.25

**Shock and Related Capillary Phenomena.** By Virgil H Moon, M.D. Octavo of 442 pages, illustrated. New York, Oxford University Press, 1938. Cloth, \$3.50

**The Scientist in Action. A Scientific Study of His Methods.** By William H George, M.Sc. Octavo of 354 pages. New York Emerson Books Inc., 1938. Cloth \$3 00

**Modern Surgical Technic.** By Max Thorek, M.D. Three volumes. Quarto of 2 045 pages illustrated. Philadelphia J B Lippincott Company, 1938. Cloth, \$33 00

**A Manual of Reparatve Plastic Surgery** By J Eastman Sheehan, M.D. Octavo of 311 pages, illustrated. New York, Paul B Hoeber Inc. 1938. Cloth \$5.50

**Spinal Anesthesia.** By Louis H Maxson M.D. Octavo of 409 pages, illustrated. Philadelphia J B Lippincott Company 1938. Cloth, \$6.50

**Diseases of the Nose, Throat and Ear** By W Wallace Morrison M.D. Octavo of 675 pages, illustrated. Philadelphia W B Saunders Company, 1938. Cloth \$5.50

**Cancer Its Diagnosis and Treatment.** By Max Cutler, M.D. and Franz Buschke, M.D. Quarto of 757 pages, illustrated. Philadelphia W B Saunders Company 1938. Cloth \$10 00

**Pediatric Symptomatology and Differential Diagnosis.** By Sanford Blum M.D. Octavo of 500 pages, illustrated. Philadelphia, F A. Davis Company, 1938. Cloth \$5 00

**Allergic Diseases, Their Diagnosis and Treatment.** By Ray M. Balyeat, M.D. Fifth edition. Octavo of 547 pages, illustrated. Philadelphia, F A Davis Company 1938. Cloth, \$6 00

**Diseases of the Ear, Nose and Throat.** By Francis L. Lederer M.D. Quarto of 835 pages, illustrated. Philadelphia F A. Davis Company 1938. Cloth \$10 00

**A Handbook of Roentgen and Radium Therapy** By A J Delario, M.D. Quarto of 302 pages illustrated. Philadelphia, F A Davis Company 1938. Cloth \$8 00

**Synopsis of Clinical Laboratory Methods.** By W E Bray M.D. Second edition. 16 mo of 403 pages illustrated. St Louis, The C V Mosby Company 1938. Cloth \$4.50

**Maternity Care in a Rural Community** Pike County Mississippi 1931-1936. By Maxwell E Lapham M.D. 16 mo of 65 pages. New York The Commonwealth Fund, 1938. Paper 25¢

**Health, Hygiene and Hooley** By W W Bauer M.D. Octavo of 322 pages. Indianapolis, The Bobbs-Merrill Company 1938. Cloth \$2 50

**Physical Diagnosis.** By Richard C Cabot, M.D. and F Dennette Adams, M.D. Twelfth edition. Octavo of 846 pages, illustrated. Baltimore William Wood & Company 1938. Cloth \$5 00

## REVIEWED

**Papers on Psycho-Analysis.** By Ernest Jones, M.D. Fourth edition. Octavo of 643 pages. Baltimore William Wood and Company 1938. Cloth, \$8.00

The last edition of this well known work came out 15 years ago. Since that time changes and revisions in psychoanalytic concepts have been made, but none as to the fundamentals. All of Dr Jones' papers have appeared in medical and other scientific journals. It would be impossible to single out any one particular article as especially praiseworthy. Jones is in the forefront of the psychoanalytic movement, and he has enriched the psychoanalytic literature by many

original contributions. His learning is prodigious, and there is scarcely a domain in psychology, anthropology, and sexology which did not benefit by his writings.

However, there are many mooted questions in psychoanalysis and many a theory which rests on debatable ground. It is here where one may disagree with Jones. As an illustration one may refer to the chapter entitled "The Theory of Symbolism." Jones adheres to the view that the origin of symbolism goes far back into antiquity, in primeval times. Those savages possessed the faculty of discrimination,

recognized similarities in things first because similarities are easier to grasp and cognize. Similarities are withal more interesting and being interesting, follow the pleasure-pain principle.

Now, all this is highly speculative. We can picture to ourselves the first reaction of the primitive man to a new experience. If not fear-inspiring, it will arouse curiosity. If a similar experience occurs later, a warm feeling of intimacy and understanding results. Interest can attach itself only to experiences which are pleasure producing. Interest is likely to shift from similar objects or qualities to dissimilar things. Dissimilarities are often more striking than similarities and curiosity is more likely to be aroused in strange than in familiar things. All this is interesting reading even if not always convincing.

JOSEPH SMITH

*Claude Bernard Physiologist.* By J M D Olmsted. Octavo of 272 pages, illustrated. New York, Harper & Brothers, 1938. Cloth, \$4 00.

There has long been a real need for a booklength biography of Claude Bernard in English. The only other English account of Bernard's life was written by Sir Michael Foster toward the end of the last century, and was rather sketchy. Dr Olmsted's book fills this need completely. It is divided into three parts, the first dealing with Bernard's life and his personal affairs. In the second his contributions to physiology are discussed, and the third section sums up his more general speculative and theoretic generalizations.

Dr Olmsted's work is the result of a great deal of meticulous research. Not only did he study Bernard's scientific writings thoroughly and critically, but he also examined sources which had never been utilized, in particular the Rafalovich correspondence. In addition, Dr Olmsted also visited the birthplace of Claude Bernard, and examined the relics of the great physiologist still to be found there. The author succeeds in evoking a clear and human picture of Bernard as a

man and a scientist. The clarity with which he presents the scientific accomplishments of the French physiologist and the critical acumen with which he evaluates these discoveries combine to give an admirable account of Bernard's work.

Dr Olmsted has definitely written a first-rate biography, which can be highly recommended to every physician.

GEORGE ROSEN

*The New International Clinics Original Contributions, Clinics, and Evaluated Reviews of Current Advances in the Medical Arts.* Edited by George M Piersol, M D. Volume II, New Series One, 1938. Octavo of 315 pages, illustrated. Philadelphia, J B Lippincott Company, 1938. Cloth, \$3 00.

This volume of *The New International Clinics* contains many well written articles on various subjects. Each article is of value, and the titles include a large field: heart surgery, hypertension, encephalitis, insulin treatment in dementia praecox, the foot in general practice, and other subjects. The section devoted to clinics gives valuable presentations on such subjects as the anemias, cortical adrenal tumors, some cases of Bright's disease, renal carbuncles, spontaneous hypoglycemia, and presents a surgical clinic on retroperitoneal tumors, sarcoma of the chest wall, and mixed tumors of the parotid. This volume is another valuable addition to the series.

HENRY M MOSES

*Sulfanilamide Therapy of Bacterial Infections. With Special Reference to Diseases Caused by Hemolytic Streptococci, Pneumococci, Meningococci, and Gonococci.* By Ralph R Mellon, M D, Paul Gross, M D, and Frank B Cooper, M S. Octavo of 398 pages. Springfield, Charles C Thomas, 1938. Cloth, \$4 00.

Within the past few years a multitude of clinical and laboratory reports have disseminated widespread cognizance of the value of sulfanilamide in the management of infections. This volume unifies such knowledge as completely as the relatively early history of the drug permits. The authors are of the pioneer American

investigators, one of them probably the first treated in this country. Their own experimental accomplishments furnish much material, but the entire field of the sulfanilamide compounds is exceptionally surveyed. Even the very recent developments are included by adding a late section. A useful reference and stimulus for chemotherapeutic research has been furnished, but its greater appeal may be as an authoritative review and summary to the practitioner using this form of chemotherapy.

IRVING M. DERBY

**A Textbook of Physiology** By William D. Zoethout, Ph.D. Sixth edition. Octavo of 714 pages illustrated. St. Louis: The C. V. Mosby Company 1938. Cloth, \$4.00.

This book represents scarcely any change from the preceding, that is the fifth, edition. In general, it is not a textbook of physiology to interest the practitioner of medicine.

G. B. RAY

**Nervous and Mental Diseases for Nurses** By Irving J. Sands, M.D. Third edition, 12 mo of 321 pages illustrated. Philadelphia, W. B. Saunders Co. 1937. Cloth \$2.00.

In the third edition of this text, the author has rewritten many of the chapters and has included new methods and improvements in the care of mental and nervous diseases. Such revisions and additions have not increased the size of the book. Each disease or disorder is clearly discussed, and sufficient material is included to provide the nurse with what she should know about mental and nervous diseases and their nursing care. This is an excellent textbook, fulfilling the purpose for which it was written and we do not hesitate to recommend it.

O. C. PERKINS

**Aids to Physiology** By Henry Dryer, Ph.D. Second edition. 16 mo of 295 pages illustrated. Baltimore, William Wood & Company 1937. Cloth \$1.25.

This little volume is a compendium containing the essential facts found in larger works. It can be recommended,

especially to students and practitioners who wish to review briefly the subject of physiology without consuming considerable time.

MORRIS ANT

**Surface and Radiological Anatomy For Students and General Practitioners.** By Arthur B. Appleton, M.D., William J. Hamilton, M.D., and Ivan C. C. Tchaperoff, M.D. Quarto of 311 pages illustrated. Baltimore, William Wood & Company 1938. Cloth, \$5.50.

This book is most timely, arriving as it does, at a time when many medical colleges have supplemented their courses in anatomy with roentgenologic instruction. Heretofore, the student in anatomy dealt mainly with the cadaver. With the addition of roentgenologic anatomy, he has the opportunity of correlating his knowledge acquired from dissection with the wealth of undistorted information gathered from the examination of the living subject. Therefore, such study gives not only a clearer concept of anatomy and physiology, but also lays a solid foundation for an understanding and interpretation of roentgenology in health and disease. By the same token, the general practitioner who seeks a basic knowledge of the subject, as well as the embryo roentgenologist, will profit by the study of this short, compact volume.

Although the parts devoted to surface anatomy are in the main adequate for the scope of the book, much important material has been omitted in the sections on roentgenologic anatomy. This is probably due to the authors' desire to limit the size of the volume. Unfortunately, in a few places the old and new nomenclatures are confused and used interchangeably.

On the whole, this book represents a concise, although elementary, presentation of the subject matter which is well printed and orderly arranged, and admirably serves the purpose of a textbook. Liberally illustrated with colored plates for the anatomic drawings and with representative roentgenograms which are clearly labeled, the volume promises to fulfill a distinct need. It is probably a

forerunner of larger and more advanced works on roentgen anatomy and physiology

SAMUEL GEORGE SCHENCK

**Chronic Intestinal Toxemia and Its Treatment with Special Reference to Colonic Therapy** By James W. Wiltsie, M.D. Duodecimo of 268 pages. Baltimore, William Wood & Company, 1938. Cloth, \$3.00.

It is, perhaps, a good thing that the subjects of "alimentary toxemia" and "colonic stasis" are reviewed from time to time. Often we are inclined to doubt their existence, particularly in view of the work of Hurst and Alvarez which appeared to show that mere insertion of a ball of cotton into the rectum reproduced most of the symptoms of "toxemia." Dr. Wiltsie, in his small book on the manifold functions and certain disorders of the colon, proves himself a firm believer in the theories of chronic intestinal toxemia for which he advocates, among other procedures, a course of colonic irrigations properly done with competent guidance. Case reports are cited to prove the value of his procedure.

Whether the beneficial results be attributed to psychic cleansing or alterative effects, there is no doubt that such irrigations often are helpful. To those interested in knowing more about suitable equipment and the best technic, this book can certainly be recommended.

ANDREW M. BABEY

**The Culture of Organs** By Alexis Carrel, and Charles A. Lindbergh. Octavo of 221 pages, illustrated. New York, Paul B. Hoeber, Inc., 1938. Cloth, \$4.50.

The problem of maintaining the viability of organs *in vitro*, has concerned investigators for many years. The first report on this subject was made by Le Gallois in 1812. The final success *in vitro* culture of whole organs was made possible with the invention by Charles A. Lindbergh of a coil apparatus in which was incorporated a pulsating mechanism. This apparatus is a device for furnishing an organ with a pulsating perfusion of nutrient material under sterile conditions.

In the first experiment the authors succeeded in keeping a thyroid gland of a cat alive for eighteen days. Subsequent investigations had resulted in maintaining the viability of whole organs for as long as forty days. One of the most remarkable observations that the authors have made consisted of alterations in the structural pattern of organs as influenced by varying the constituents of the perfusion media. They were able to demonstrate hyperplasia of cells and growth of organs *in vitro*.

Lindbergh's experience and mechanical ingenuity are seen in the construction of the apparatus. It consists of two parts: a perfusion apparatus and a mechanism for driving the perfusion fluid by means of pulsating gas pressure.

The chapters concerned with the biology and physiology of organs are contributed by Alexis Carrel. In them one finds a fascinating concept of anatomic structures in their relationship to physiologic time. Carrel considers the functions of organs as the fourth dimension in viewing the anatomic structure of an organ. The chapters concerned with the mechanical development and construction of the pulsating perfusion device are contributed by Lindbergh.

WILLIAM S. COLLENS

**A Text-book of Pharmaceutics.** By Arthur O. Bentley. Fourth edition. Octavo of 1,001 pages, illustrated. Baltimore, William Wood and Company, 1937. Cloth, \$5.00.

This book, as its name implies, is devoted exclusively to pharmacy and pharmaceutical processes. Unfortunately, it is based on the British Pharmacopoeia. The names of preparations and their standardization are different from those used by American pharmacists and physicians who adhere to the United States Pharmacopoeia. One can recommend, however, the section on biologic assay, which is a clear and comprehensive description of the physiologic standardization of hormones, vitamins, digitalis, and arsphenamine compounds.

CHARLES SOLOMON

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

MARCH 15 1939

NUMBER 6

---

## *Editorial*

---

### The Better Way

Nonprofit voluntary cash indemnity insurance combines the best features of private practice and state health insurance. It preserves free choice of physicians and leaves the important intangible elements in healing intact. It protects small wage earners against the financial consequences of prolonged or serious illness. It leaves the responsibility for the standards of medical practice with the profession, where it belongs, and retains the incentives for continuous self-improvement by physicians. By making it easier for the low income class to go to the doctor, it promises to better the public health.

What it does *not* do, is equally important. It does *not* set up two kinds of medical practice, a superior grade for the well-to-do and an inferior one for the small wage-earner. It does *not* reduce the sick worker to the status of a case number, neither does it deprive him of the right to select his own physician or to enjoy the privileges of professional confidentiality. It does *not* set up a political bureaucracy in control of medical care and subject the practitioner to lay supervision and restraints. It does *not* burden the taxpayer with levies for medical care, of which administrative expenses consume a considerable portion.

The Piper bill (Assembly Introductory No. 500) permits the establishment of nonprofit medical cash indemnity insurance in this state. While the State Insurance Law would regulate financial details, medical principles would dictate the medical rules. Unethical solicitation of patients would be forbidden. Medical service associations would be kept separate and distinct from hospital service groups.



The last provision is extremely important. A bill sponsored by Assemblyman Downing would permit hospital service organizations to provide medical care. This is in clear violation of the condition on which the profession supported group hospitalization.

Hospital service associations are firmly established in this state, thanks in large part to the support of organized medicine. To permit them to include physicians' services in their contracts would give them a virtual monopoly of medical care. This they are in no way qualified to exercise—even if the principle of such a monopoly were sound, which it is not.

The management of group hospitalization is in predominantly lay hands. Lay executives, no matter how experienced in social service and hospital administration, are not equipped for the direction of a vast medical service plan.

The Piper bill is superior to the Downing bill by virtue of its detailed grasp of the problem of medical care and its separation of medical and hospital service. It has all the good points of the Downing bill and none of its faults. Enactment of Assembly Introductory No. 500 would set New York State on the way to providing its working population with a sound, simple means of budgeting for health.

### A Notable Program

The scientific program of the State Society this year emphasizes early recognition of disease to prevent complications and chronicity and save life. There are two chief factors in failure to secure early treatment. Often the sick postpone going to a doctor until they have tried out various widely advertised proprietary remedies. Sometimes the fault lies with the physician, who does not recognize early symptoms.

Education of the public to seek medical care promptly is an essential element in preventive medicine. Toward the same end, the profession is constantly seeking more accurate diagnostic procedures and a higher development of the clinical diagnostic faculties. The Scientific Program of the State Society responds to this need.

On April 25 the general scientific session will be given over to the early recognition and treatment of emergencies. A series of thirty-minute talks, practical in nature, will clarify fine diagnostic points and clear up any commonly held misconceptions. Dr. Thew Wright, Professor of Surgery at the University of Buffalo, will take up "The Acute Abdomen." "Obstetrical Emergencies" will be covered by Dr. Edward A. Schumann, Professor at the University of Pennsylvania. Dr. Orman C. Perkins, Professor of Clinical

Neurology at the Long Island College of Medicine, will present the subject of 'Acute Cerebral Emergencies', and Dr Edward C Reifstein, Professor of Medicine at Syracuse, "Cardiac Emergencies"

The recognition of chronic disease in its first stages will be covered in similar fashion on the 27th of April Dr Samuel A Levine, Assistant Professor of Medicine at Harvard, will describe 'The Early Evidence of Cardiovascular Disease Early Diagnosis and Treatment of Pulmonary Tuberculosis' will be discussed by Dr James Alexander Miller, Professor of Clinical Medicine at Columbia Dr Clarence O Cheney, Professor of Clinical Psychiatry at Cornell, will take up the "Early Recognition of Mental Diseases and Their Treatment" The A Walter Suter Lecture this year will be devoted to "The Early Diagnosis of Cancer" Dr Francis Carter Wood, Professor of Cancer Research at Columbia, will deliver it

In these eight half-hour lectures, registrants will get a comprehensive, practical review of diagnostic and therapeutic procedure from the point of view of early detection and timely attack The Annual Meeting of the State Society is little more than a month off now Members should start planning their calendars so they will be free to attend

### Prevention of Deafness

The problem of deafness still awaits solution However, the outlook now appears considerably more favorable than it did even as recently as ten years ago The amelioration of hearing loss naturally interests both the afflicted and the physician, but a far greater need is the early recognition of the causes of deafness and their removal so that a subsequent diminution in hearing may be forestalled The increase in the number of deafened individuals so concerned our legislature that the examination of the hearing of children in our schools has been made a compulsory measure

It has long been known that a continued obstruction of the eustachian tubes results in a permanent impairment of hearing In children, this is most frequently due to abnormal amounts of lymphoid tissue in the nasopharynx Otolaryngologists have always recommended the removal of adenoids as a prevention against otitic suppuration and deafness, and unquestionably this procedure has had its successes But, according to Crowe and Baylor<sup>1</sup> this does not always relieve the tubal obstruction, since nodules of hyperplastic lymphoid tissue may remain or develop after a cold and

<sup>1</sup> Crowe S J and Baylor J W J A M A 112: 565 (Feb 18) 1939

cause partial obstruction of the eustachian tube Over a period of ten years, these observers have carefully studied sixty children up to fifteen years of age and conclude that the "most common type of middle ear deafness in adults begins between the ages of five and ten years," and is the result of hyperplastic lymphoid tissue around the pharyngeal orifice of the tube Its early manifestation is retraction of the drum, impairment of hearing for the high tones, and good hearing for the low tones

When the condition is recognized, this lymphoid tissue should be kept in abeyance during the period of most active growth The use of small doses of radium, as described by Crowe and Baylor, before permanent middle ear changes have taken place, will not only prevent future development but will restore to normal the hearing loss already present in children below the age of fifteen "We feel that if school children in the primary grades were examined with a nasopharyngoscope at least once a year, and those with hyperplastic lymphoid tissue in and around the orifice of the eustachian tubes were treated with radiation as often as necessary to insure normal functioning of the tubes, the number of deaf adults in the next generation could be reduced by 50 per cent "

### Stammering and Allergy

It seems a far cry between stammering and allergic diathesis Commonly it is assumed that this type of speech impediment has a psychologic background—a sense of guilt, inferiority, fear—or it is the result of imitation Kennedy and Williams,<sup>1</sup> however, in a study of 100 consecutive cases of stammering children, found that 52 had a personal history of allergic manifestations Of the remaining 38, there was a family history of allergy in all but one

It is also significant that a family history of stammering was obtained in 65 of the cases observed by Kennedy and Williams This almost constant association of allergic manifestations and stammering as reported in their presentation warrants further investigation by allergists, psychologists, and those who treat speech defects Many conditions hitherto unexplainable have been found to be the result of allergic disorder Such conditions, when present, require individual types of treatment for their alleviation Perhaps this is the reason why no universal form of therapy is applicable to all cases of stammering Latif,<sup>2</sup> in this connection, considers no treatment of stammering effective unless both primary and secondary factors are taken into account This large series of cases suggests

<sup>1</sup> Kennedy, A. M. and Williams D. A. *Brit Med J* 2 1306 (1938)

<sup>2</sup> Latif I. *Brit M Med Psychol* 17 307 (1938)

that there may be more than a casual relationship between allergy and this variety of speech defect

### Current Comment

"Medicine is a living, vital science, constantly moving to attack new problems that arise. It has given vastly of itself to mankind in the past, and it stands ready to give more, if it can, in the future. It makes to mankind no promise of immortality or even of eternal youth, but it does offer to those who are ready to receive its gifts, increasing years of usefulness." From an article in the *St. Louis County Medical Society Bulletin* of February 17, 1939

"The American people for two or three federal elections past have had the question, 'Do you want socialism?' put to them in the form of a socialist candidate for president. The answer by and large has been most emphatically, No! and yet it would appear that the very thing which the American people in mass turn down, they are willing to swallow if given to them piecemeal.

"There is an old Latin saying, 'divide and conquer, which carried with it a moral. Any task which appears to be huge in its totality may be accomplished by dividing and attempting a little at a time. Compulsory health insurance represents one of these divisions" *Exchange*

And in spite of all this we think that we, as a nation, are smart. Tell the underprivileged of this nation that the government is going to give them \$50,000,000 for medical care for the coming year and the giver gets the votes. On the other hand, tell each one of these 40,000,000 persons individually that the government is going to give him \$1.25

for sickness during the next year and the giver is a louse!

"Yes sir! Fifty million dollars, if all spent for medical care, will give each of the forty millions now receiving inadequate care exactly \$1.25 a year additional care—the price of one single haircut and shampoo." *Sedgwick Co (Kan) Medical Bulletin*

"It has been definitely determined by certain of the governmental agencies that the reason some of our people are poor is because they have no money. Having no money, it follows they have poor housing, insufficient food, lack of proper clothing, and inadequate medical attention. The whole thing is now clear. It has not been emphasized, however, that the proportion of medical care they do have is higher than the proportion of these other necessities due to the philanthropic character of the physicians. If the purveyors of the other commodities were as generous, the entire problem would be ameliorated and there would then be less demand for more medical service.

The time is not yet ripe to release over a broad area a type of medical practice which has been shown to be definitely inadequate. Also until all human beings are cast in the same mold, like peas, it is questionable whether that time will ever arrive.

"The sociologists after all merely aim for a more adequate distribution of inadequate medical service to those in the lower financial brackets. This will keep them sick and keep them poor, but it will make a lot of new jobs, and that's something!" *The Weekly Roster and Medical Digest* of Philadelphia presents "Some of the Other Sides"

"The future is unpredictable, but come what may, the treasured invisible emblem which physicians' shingles have borne through the years must be guarded carefully against any blighting effect of the hysterical paternalism which is sweeping the world. It must never be besmirched or obliterated by the long, crooked, slimy fingers of politics." Elmer H Bobst, in *Roch Review*, recently

. . .

"'Free Medicine for All'—such is the caption of an article in one of the popular magazines. On seeing this we were reminded of the man who went into a tavern optimistically and left it misty optically. The writer in his enthusiasm for his subject forgot that medical care under any system must be paid for. This mistiness, we have noticed, is quite characteristic of many social reformers." A "Timely Brevity" in the *Milwaukee Medical Times* for February

. . .

"An intensified public relations campaign explaining medicine and its works to the laity is needed now. It would be an eleventh hour remedy but it's worth the trying before the great and gullible American public is sold completely and irretrievably down the river of socialized medicine." The *Illinois Medical Journal* desires that we "Educate the Laity as to the Evil of Tax Supported Medical Practice," and discusses this question in its February issue.

. . .

"Doctors Aren't Villains," states an editorial in *The Katonah Record*, from which we quote in part: "Indictment of these doctors seems like a very drastic and 'cocusy' performance as a prelude to a new national health movement. It naturally clouds the movement. The nation's doctors are intimately connected with the home life of the American people. Notwithstanding this fact they are indicted like deep-dyed villains. As a matter of fact there is no profession that

*stands higher in the estimation of the American public than our doctors*" (Italics ours)

. . .

"I, for one, would like to have the American people know that I personally, as a physician, feel that I have been indicted by the United States government, that the impugned reflection on the integrity of the American Medical Association is considered by me as a reflection upon myself. I should like to have every citizen of the United States know that his family physician has been indicted. Under our American system the medical profession has never defaulted an obligation nor proved unfaithful to a trust." How Dr Henry A Luce, President of the Michigan State Medical Society, feels about the matter.

. . .

"The fight against mental disease is a totalitarian war in which all elements in the population must take their part. Propaganda must be employed, but what we want to propagate is the truth. It is the special role of those who are most closely associated with this special field of medicine to increase our body of knowledge as rapidly as possible, to give additional precision to the general principles which are gradually being outlined to bring the facts within this field of medicine into their natural relationship with other branches of science." C Macfie Campbell, quoted in "The Gist of It," a reprint of the results of the symposium on mental health held recently by the American Association for the Advancement of Science.

. . .

"The standard of knowledge of the general practitioner of today often surpasses the peak of certain specialists twenty or twenty-five years ago." Comment in the *Edinburgh Medical Journal*

# MULTIPLE AREAS OF INTRACEREBRAL CALCIFICATION

CHARLES A. MCKENDREE, M D , S BERNARD WORTIS, M D , S E SOLTZ  
M D , New York City

(From the New York Neurological Institute and the Department of Neurology Bellevue Hospital)

THE finding of calcification within the cerebral hemispheres is of great importance from the diagnostic, etiologic, and therapeutic points of view. Normally, in adults, calcium deposition often occurs in the pineal body, the choroid plexus, the falx cerebri, and occasionally in the meninges. Aside from these usual sites, any roentgenographic evidence of calcium deposits within the cranium should lead one to suspect either degenerative or neoplastic disease.

As is well known, calcification may occur in mongolism and cretinism,<sup>1</sup> old standing chorea, tuberose sclerosis,<sup>2</sup> cranial pharyngiomas, various forms of gliomata, angiomas,<sup>3</sup> tubercles, meningiomata, subdural hematomata,<sup>4</sup> intracerebral hemorrhage, aneurysms,<sup>5</sup> cysts, old abscesses, arterio-sclerotic changes in vessels, *old meningeal disease*,<sup>6</sup> cholesteatomata, chronic encephalitis,<sup>7</sup> etc. In most of these conditions it is unusual to find more than one focal area of calcification, and the x ray characteristics are quite distinctive from the lesions discussed in this paper.

Multiple areas of calcification within the brain are not found frequently. When present, they have not been associated with similar deposits elsewhere in the body. Weimann,<sup>8</sup> in 1921, described an extremely interesting case of calcification of cerebral vessels. In his case there were extensive and multiple lesions of the vessels and corresponding brain tissue. In 1929 Parkes Weber<sup>9</sup> described multiple calcium lesions within the brain associated with cutaneous manifestations such as nevi. These brain lesions were easily demonstrated by roentgenograms as rather shadowy images within the cerebral hemisphere which seemed to follow the course of the af-

ected gyri. The calculi were of considerable diameter, and were patterned in the form of layers corresponding to the surface of the brain. The histologic study of such cases by Krabbe<sup>10</sup> demonstrated the deposits of calcium to be within the second and third layers of the cerebral cortex together with atrophic and sclerotic changes within the gray matter of the area involved. In addition, Krabbe found associated slight angiomatous modifications of the pia mater, and angiomata of the face in the cases he described.

Dimitri<sup>10</sup> and others have reported somewhat similar clinical cases.

In the disorder known as Krabbe's disease, and sometimes as Parkes Weber's disease, one finds mental disturbances, convulsive disorders, vascular alterations in various parts of the cerebrospinal axis, and cutaneous manifestations, together with definite x-ray evidence of calcification within the brain. The vascular disturbances were very slight in the brains of these cases studied histologically, and furthermore the changes within the brain could not be attributed to vascular origin.

An entity described by Geyelin and Penfield<sup>11</sup> is closely related to Krabbe's disease, and it is probably difficult to distinguish between them by x-ray evidence alone. In the condition described by Geyelin and Penfield as "endarteritis cerebri calcificans," changes were believed to be present in the terminal blood vessels of the cerebral hemispheres, and to have produced calcium deposits in the cortical substance. Geyelin and Penfield felt that the histologic appearance of the brain was the result of alterations of the blood vessels, and possibly due to an altered metabolism of calcium. Their cases, familial in type,

showed multiple calcium deposits in various regions of the brain, especially the occipital lobe. X-ray photographs showed the concretions to be egg-shaped, somewhat umbilicated in appearance, and following or symmetrical to the marginal gyrations. Their group of cases is related to Krabbe's disease, the distinguishing features of "endarteritis cerebri calcificans" being the absence of cutaneous lesions and angiomaticous malformations of the cerebral blood vessels. Furthermore, their histopathologic report lends great weight to the thesis that the primary cause is a vascular disturbance.

Bassoe and Hassin<sup>12</sup> reported a case of pseudo-tumor, in which multiple areas of calcification were noted by x-ray. Pathologic studies revealed the sites of the calcium deposits to be in the tissue spaces of the cerebral cortex, and also in the smaller and larger blood vessels.

In their case the usual changes were primarily within the cerebral vessels, with secondary changes in the cortical substance. The degree of calcium infiltration of the cortex was minimal compared with that of the blood vessels.

The clinical features of Bassoe's case simulated brain tumor, and did not in any way resemble the symptomatology of the cases reported by Krabbe, and Geyelin and Penfield. Operative procedures on two occasions on the left hemisphere of Bassoe's patient gave evidence of a deeply situated hard mass. Histologic study proved a peculiar type of encephalitis, a localized indurated calcified area, and a certain amount of generalized encephalitis in distant parts as well. The capillaries and smaller vessels were infiltrated with a colloid substance found as droplets on the walls, or totally enveloping them.

Careful x-ray studies of intracranial calcifications have been made by Camp,<sup>13</sup> of the Mayo Clinic.

There have been various suggestions offered to explain the etiology of calcium deposits within the brain. Rukstinat<sup>14</sup> and others believe they are due to birth injury and internal hydrocephalus. Buckley<sup>15</sup> concludes that intracerebral calculi

may be associated with a previous intracranial injury or with an existing vascular hypertension, and feels that they most probably represent the end result of cerebral hemorrhage or degeneration. Bassoe and Hassin believe that calcification of the cerebral vessels themselves are responsible for the changes within the hemispheres. Wells<sup>16</sup> is of the opinion that metastatic calcification is probably the cause of the formation of calculi in the brain.

Whatever the etiology may be in the groups of cases mentioned above, the disturbance is either in the cortical substance itself, with secondary or minimal pathologic changes of the vascular system, or the pathologic focus lies within the vessels of the brain with secondary alterations in the cortical substance.

The absence of altered calcium metabolism elsewhere in the body, and the normal content of calcium in the blood and spinal fluid point to a localized alteration in the brain.

Our case reports may further complicate the clinical interpretation of multiple calcifications within the brain substance, but there are certain points of interest in these 3 cases that are stimulating, not only from the diagnostic point of view, but also from the therapeutic angle.

## Case Reports

*Case 1*—A white female, aged 12, came for office consultation on February 17, 1937. The patient's mother described the following complaints: the child had spells of unconsciousness, and nocturnal attacks of bizarre behavior, lasting a few minutes. She would often sing meaningless words and apparently absurd phrases, or would arise from bed in a daze and walk about, occasionally sinking to the floor rather helplessly. Often she would crawl without apparent cause on her hands and knees. She had injured her hand in some of these performances. Immediately following such episodes, the patient would open her eyes, look at her mother, and become fully conscious, but with no memory of her immediately preceding bizarre behavior. In one attack, she put her head on her mother's shoulder, and her head seemed to shake, and "she felt so cold along her spine," and then suddenly went to sleep.

On November 20 1936 the child seemed in disposed and stayed in bed. The next morning she felt well and went to school. During that afternoon she was seen by one of us (McK.) because she had been hit during play by a light dodge-ball, and her head had struck an adjacent wall. The patient rubbed her head and continued playing ball for five or ten minutes although she appeared markedly pale to one of her schoolmates. Suddenly she went over to a ledge and sat down, and did not offer to join the new game that was starting. When invited, she said that she felt tired. She sat still for about five minutes, and when the game was over she was observed sitting with her head between her hand. A teacher observed that one of her hands was shaking somewhat. She was carried to a couch her talk in reply to questions was unintelligible and she became unconscious and remained so for several minutes. There was no incontinence of the sphincters and no biting of the tongue. The pupils were widely dilated but reacted to light. One hour later the patient was able to return to her home in a cab. She appeared normal in every way but rested at home for a few days.

Six weeks later in the classroom the patient felt queer, and said to a girl sitting next to her 'I can't see. Tell the teacher I want to go to the hospital room.' Almost immediately thereafter she fell to the floor unconscious, had no motor convulsive movements and remained unconscious for five or six minutes. On first recovering consciousness, she did not recognize the nurse, but soon became mentally clear and complained only of fatigue.

On two occasions, the mother heard the patient cry out in her restless sleep sit up in bed and move her lower extremities. When aroused she expressed fears that her mother was dead, and other definite anxieties.

**Past History.** The patient was a normal birth. She had always been nervous as evidenced by picking or biting her nails. The child began to walk at sixteen months and spoke at two and one-half years. Her general health had been excellent.

The menstrual periods began at eleven or curving at intervals of 21 to 31 days lasting five days rather profuse in amount, without special discomfort.

She had chicken pox measles mumps pertussis, and mild influenza in childhood with no neurologic complications.

There were no hay fever or asthma allergic manifestations but the child had idiosyncrasies to carrots, orange juice, and egg yolk.

Both tonsils and adenoids were removed at the age of three.

**Family History.** The family history was negative for convulsive states. The mother had passed through a short period of a situational depression following the patient's birth. The parents were divorced and the patient was an only child.

**Physical Examination.** The physical examination showed a well-developed girl of twelve weighing 123 pounds and being 62 $\frac{3}{4}$  inches tall. No abnormalities of any kind were found in a detailed physical neurologic and mental examination. Laboratory studies showed the following:

Blood urea nitrogen 11.5 urea 24.6 uric acid 2.5 cholesterol 187.5 and 203 mg per cent calcium in serum 10.9 inorganic phosphorus 4.4 Wassermann negative. Complete blood count and differential normal.

Urine negative on 2 occasions.

Basal metabolism minus 18 per cent.

Spinal fluid clear, 5 lymphocytes total protein 28, globulin not increased colloidal gold 0000000000 Wassermann negative in both alcoholic and cholesterolized antigens calcium 4.4 mg per 100 cc. Pressure and dynamics entirely normal.

Ophthalmologic study showed the visual fields, fundi and acuity normal in April and September 1937.

Intensive psychologic and psychometric tests were made during the early part of 1937.

The new Stanford Binet test gave an I.Q. of 107.

The Herring Binet test gave an I.Q. of 105.

The Arthur test gave 0.80.

There were no particularly significant reactions in the Jung association test.

The Pressey X-O test showed a possible emotional reaction to an unhappy social situation.

X rays of the skull made in March 1937 by Dr. C. G. Dyke, were reported as follows:

Single A.P. P.A. and lateral views of the skull show the vault to be of average thickness and not unusual in size or shape. There is no evidence of increased intracranial pressure and the sella turcica is normal in size and shape. There are multiple areas of calcification which vary in size from a few millimeters to close to a centimeter scattered on the surface and in the substance of the brain. The left hemisphere contains more of these shadows than the opposite side. The calcified areas tend to accumulate in the temporal, parietal, and frontal regions.



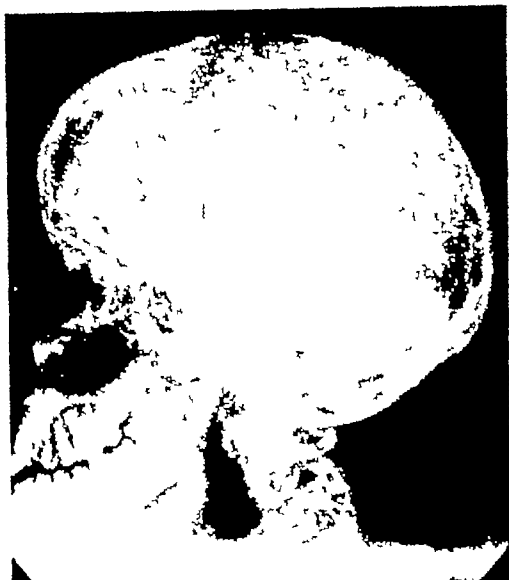


FIG 1, CASE 1 Lateral view showing multiple areas of intracerebral calcification

The central areas of the brain are practically not involved. The sphenoid and petrous ridges appear normal."

**Impression** Endarteritis calcificans cerebri

Skull x-rays of the father and mother of the patient were absolutely normal

**Follow-up Course** the patient has done extremely well in school since thyroid and phenobarbital medications were given. Her general attitude has improved, she is more alert, more social, in spite of her awareness that she is liable to have "a spell."

There was one severe attack in August, 1937, which was characterized chiefly by over-talkativeness and overactivity followed by a period of dizziness, unconsciousness, and violent jactitation. This phase lasted twenty minutes. Upon recovery, there was continued vomiting and a severe headache that lingered for about an hour. Upon being carried to bed, the patient fell asleep.

There have been several occasions during which the patient said her head felt queer, ached, and she was tired. She occasionally has some transitory difficulty in focusing on near-by objects, and on one occasion, she experienced sensations of colors like a rainbow that "moved around and suddenly disappeared."

It should be noted that medication by thyroid extract and small doses of phenobarbital was of much value in this case.

**Summary** This patient showed the following

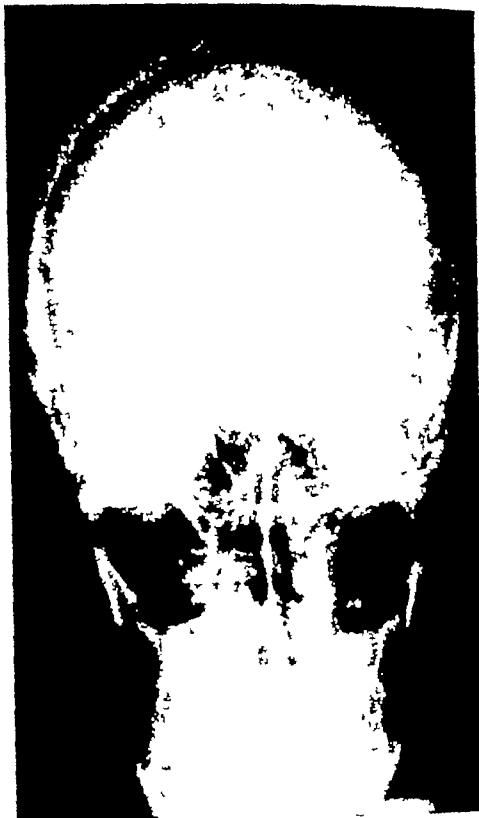


FIG 2, CASE 1 A P view of skull showing multiple areas of intracerebral calcification

1 Multiple areas of calcification within both hemispheres of the brain

2 Convulsions (petit-mal, grand-mal, and epileptic equivalents)

3 Metabolic rate below normal

4 Scholastic difficulties (before medication)

5 Visual hallucinations (once)

6 Preservation of normal visual function

7 No clinconeurologic signs

8 Normal laboratory studies of cerebrospinal fluid, blood, and urine.

**Case 2**—N I (29830) D D, white, schoolgirl, aged 16½ years, entered the Neurological Institute on February 9, 1937, with the chief complaints of poor vision, mental sluggishness, headaches, and convulsive seizures.

**Present Illness** The mother stated that the patient was a normal birth and normal in development until the age of three, when it was noticed that the child was unaware of movements about her and failed to grasp objects brought within view. Since then, the patient's vision had become progressively impaired so that at the present time she has remaining only moderate perception for light, color, and printed

words, and is barely able to recognize people about her

The mother said that in comparison with other children, her daughter appeared retarded in speech and motor accomplishments. At the age of 16 months, the child fell and struck the left side of her head, and her mother believes that since that time, the patient has been sluggish both mentally and physically. However, there was no peculiar behavior disorder noticed following this slight trauma. As the patient became older she appeared to be inferior to children of her own age and disliked educational subjects because she could not retain information. She preferred to do gymnastics because she could compete quite well with her companions in spite of her visual handicap.

The patient stated that she began to have headaches, located across the forehead and at times in both temporal regions, at the age of 13. These headaches were of a dull aching and throbbing character lasting for six or more hours accompanied by nausea and dizziness but without vomiting. They have occurred only in association with the menstrual periods. In addition, she noticed at various intervals faint streaks or flashes of red or blue light in either visual field which persisted for a few seconds and were relieved by closing the eyes. They were often noted prior to the onset of her headaches and became more frequent and profound at the time of the first convulsive attack.

Approximately ten months prior to her admission to the hospital she experienced her first convulsive seizure. There was a general feeling of dizziness prior to the attack, followed by rigidity with unconsciousness, stertorous breathing, saliorrhea, biting of the tongue and generalized tonic and clonic movements, always with greater involvement of the right half of the body. This was followed by generalized headaches lasting one-half hour. There was no urinary or rectal incontinence. She had had five such attacks before her admission to the hospital and one preceded by remarkable streaks and flares of light. There were no petit mal or jacksonian episodes.

Her menstrual periods had been regular until a year ago when the duration of the flow became shortened and the interval period lengthened.

**Past History.** She had had chicken pox and diphtheria as a child with no neurologic complications.

**Family History.** There is an older sister and a younger brother who are well. No history of consanguinity, epilepsy, psychoses, or familial hereditary diseases of the central nervous system in either the maternal or paternal lineage.

**Physical Examination.** This revealed a fairly well nourished and developed white female of hypoplastic habitus weighing 104.5 pounds and being 151.5 cm. tall. The cranium was of the microcephalic type with a circumference of 49 cm. There were no abnormalities of the cardiovascular, respiratory, gastrointestinal or skeletal systems.

**Neurologic Examination.** This showed no abnormalities of gait or co-ordination. There was a marked tremor of coarse type on extension of the hands, with some athetoid posturing of the right hand. The deep reflexes were equal and very active; the superficial reflexes were normal except for the plantar response on the left. The grip of both hands was of good strength. There were no changes noted in the muscular system. Sensation was intact. There was a definite lag in the ability to move her fingers at command although she moved them promptly upon touch and was able to perform complex acts such as intertwining the fingers in normal or reversed manner.

The cranial nerves showed the following alterations: inequality of the pupils, the left being larger than the right, with good reaction to light; direct and indirect responses on accommodation and convergence could not be elicited due to nystagmus. The nystagmus was of a rolling rhythmic inco-ordinate type easily elicited when the patient moved her eyes in any direction. There was full excursion of ocular movements in all directions. These movements, however, could not be maintained due to the lack of power to fix the gaze. The palpebral fissures were equal.

The fundi were the seat of multiple areas of old choriorretinitis with pigmentary degeneration of the retina and optic atrophy. There were opacities of the vitreous. The arteries were reduced to mere threads, this being more noticeable in the left fundus. The discs were pale and there was no evidence of edema. The visual acuity averaged 4/200 in each eye. She was able to discern color. Due to the lack of central vision, examination of the visual fields could not be accomplished. Other cranial nerves were normal.

**Mental examination** showed a very responsive suggestible individual with childlike behavior, perhaps the result of insecurity and inferiority. She was emotionally unstable, showed impairment of memory for recent and remote events and inability to do simple calculations. Given the Irwin-Hayes revision of the Binet-Simon tests standardized for blind subjects, she showed an intelligence quotient of 0.68. Laboratory findings were as follows:

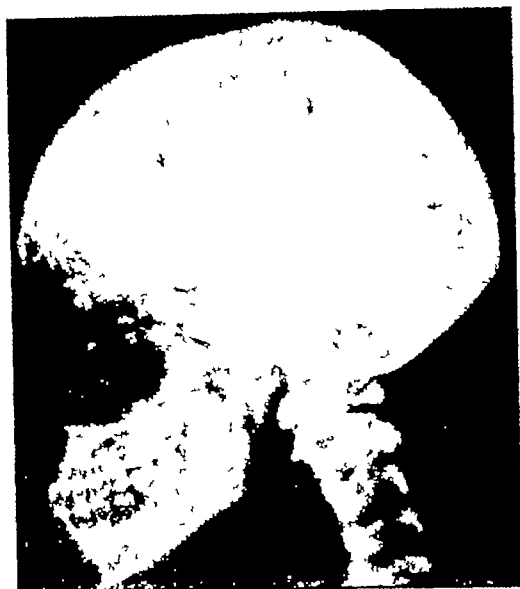


FIG 1, CASE 2 Lateral view of skull Arrows point to calcified areas

Blood count Hb 88, color index 0.89, RBC 4,980,000, WBC 8,500, polynuclears 48, lymphocytes 50, eosinophiles 2, morphology, normal.

Blood chemistry urea N 13.6, uric acid 3.2, sugar 96, chlorides 515, calcium 10.1, phosphorus 3.9, cholesterol 132

Blood Wassermann negative.

Urnalysis turbid, amber, reaction acid, sp gr 1.027, albumin, a faint trace, sugar negative, pus cells, many

Spinal fluid cells 0, globulin 0, protein 36, gold curve 11100000000, Wassermann negative.

Basal metabolism BMR- minus 15

X-ray stereoscopic views of the skull showed the bones of the vault somewhat thickened and the size of the vault smaller than normal. The sella turcica was normal in size and appearance. Multiple areas of calcification were seen within the cerebrum, several areas being in the left parietal region, a single area in the right frontal, and one in the right occipital region.

Encephalographic studies performed on the third and ninth day after admission revealed normal cerebral structures.

Course in hospital The patient's general course in the hospital was uneventful. She exhibited childish attitudes and cried upon the least provocation. No convulsive seizures occurred during her stay, and she was discharged 11 days after admission, unimproved. The patient was seen again in April 1, 1937, and on

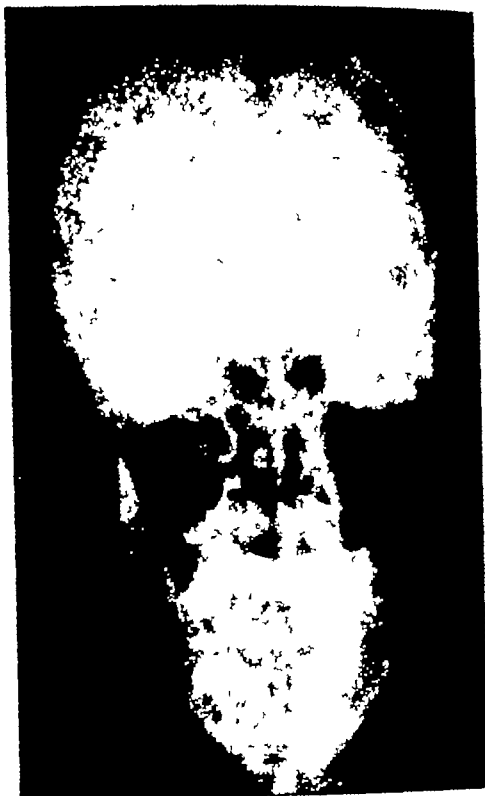


FIG 2, CASE 2 A P view of skull Arrow points to areas of calcification within the brain substance.

May 6, 1937, and during the interval, had had only one seizure. Her general mental attitude and behavior remained the same. Her school-work is generally poor and she has difficulty in her association with other children.

Summary This patient showed the following

- 1 Multiple areas of calcification within the brain substance.
- 2 Chorioretinitis, optic atrophy, and nystagmus
- 3 Convulsive attacks of the grand mal type, preceded by visual hallucinations of "flares and streaks of light"
- 4 Mental deficiency
- 5 Definite but moderately low basal metabolism
- 6 Normal encephalograms on two occasions

Case 3—M N, a white adult, married, female, aged 39, was admitted to the Bellevue Hospital, Neurologic Department, on April 9, 1936, with the complaints of poor vision, generalized convulsive seizures, and right temporal head aches, of seven years' duration.

Present Illness This patient was first seen



FIG 1 CASE 3 Lateral view of skull which shows the intracerebral areas of calcification.



FIG 2 CASE 3 Ventriculogram showing areas of calcification and moderate dilatation of ventricular system

in the Neurological Outpatient Department in June, 1931 at which time she told of having had generalized convulsive seizures for the preceding two years, during which everything would turn black, and my head would turn to the right side.' She would be unconscious for 15 minutes and occasionally bite her tongue. She was given sedative medication and followed in the O.P.D. for several years and preceding this last admission to the hospital, she complained of pain in the right temporal region. Occasionally her convulsions started with left sided clonic twitches. Her fits occurred twice weekly. In addition she has noticed progressive difficulty with vision which extended over a period of 7 or 8 years.

**Past History** Birth and early development were normal. Appendectomy at the age of 24, operation for abdominal adhesions at 27 acute, purulent otitis media, which subsided completely with conservative treatment at the age of 38.

**Physical Examination** A well-nourished adult female, weighing 140 pounds and 5 feet 8 inches tall, of asthenic habitus cranium of normal size and shape no abnormalities of the cardiovascular respiratory gastrointestinal muscular or skeletal systems. Blood pressure, 120/74.

**Neurologic Examination** Cranial nerves—no defect in smell. There is bilateral atrophic choroiditis with mottled black pigment de-

position bilateral optic atrophy and associated visual defect. The left pupil was irregular but both reacted to light and on accommodation. There was slight limitation of left lateral gaze with the left eye. Otherwise the cranial nerves were normal.

**Motor power**—good in all extremities, no focal atrophies or fibrillations co-ordination normal of station, limb and gait reflexes deep—all present and equal superficial—all normal no sphincteric difficulty sensation entirely normal to all forms of stimuli speech normal.

**Mental status** patient was slow and child like in responding to questions speech was not spontaneous but apt to be only in response to questions There was no distractibility scattering or blocking mood statement 'feel all right, not sad or happy' no paranoid trends, compulsions delusions or hallucinations

**Orientation and memory** were poor especially memory for recent events. Retention, poor she could remember only 1 or 3 objects after 5 minutes could not repeat 4 digits backwards. Calculations, poor

**General information**—poor with a tendency to talk in general terms or circumlocution or ramble when asked specific questions The patient had insight into her disabilities and illness Laboratory data blood count Hb 60 per cent RBC 4 000 000 normal white count and differential smear blood chemistry normal

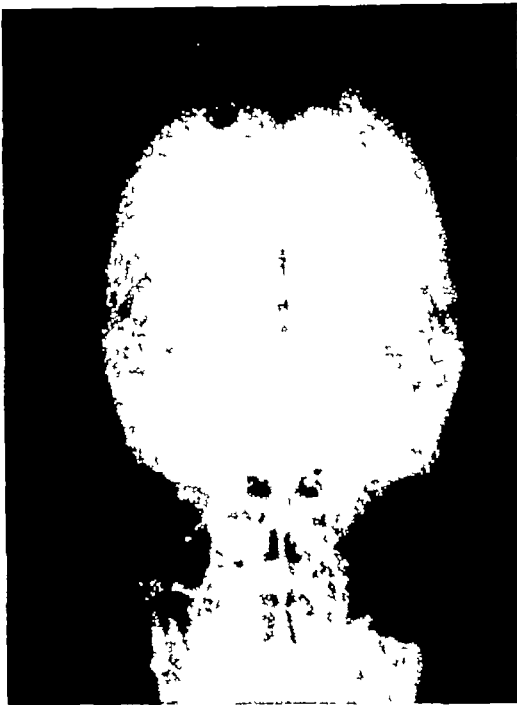


FIG 3, CASE 3 Ventriculogram, A P view

sugar, urea nitrogen, uric acid, chlorides, calcium, phosphorus, and cholesterol, blood Wassermann negative, urinalysis entirely normal with specific gravity of 1.020, spinal fluid pressure and dynamics normal, clear, colorless, 5 mononuclears per cu mm, total protein 60 mg per cent, colloidal gold 0011000000, Wassermann, negative, basal metabolism minus 13 per cent

X-rays of the skull showed scattered discrete foci of calcification measuring 1 to 3 mm in diameter, chiefly located in both occipital lobes, also present in both frontal and parietal lobes

Ventriculograms showed considerable symmetrical dilatation of the entire ventricular system with no tendency to displacement to either side

Course in Hospital Uneventful Her convulsive seizures were controlled by Luminal medication,  $\frac{1}{2}$  gr three times a day She was also given vitamin, liver extract, and iron therapy, to alleviate her anemia Mentally, she remained dull, at times overtalkative, but had no periods of confusion aside from those associated with her postconvulsive state

Summary This patient showed the following (1) multiple small areas of calcification throughout the brain, especially in the occipital lobes, (2) Bilateral chorioretinitis, (3) Generalized convulsive seizures, starting with focal clonic seizures in the left leg, (4) Mental signs of an

organic (anergasic) syndrome, (5) Evidence of moderate symmetrical internal hydrocephalus

## Summary

Three cases are described wherein multiple areas of intracerebral calcification were associated with paroxysmal convulsive disorders The subjects were 12, 16, and 39 years of age All had low basal metabolic readings Two of our patients showed atrophic chorioretinitis, with optic atrophy We believe these cases represent a clinical group in which several of the outstanding phenomena are due to faulty calcium metabolism

## References

- 1 Ostertag, B Virchow's Archiv für Pathologische Anatomie, **275** 828-859 (1930)
- 2 MacDonald, C Brit J Radiology, **7** 697-701 (1935)
- 3 Cushing, H. W and Bailey B Angiomatous Malformations and Hemangioblastomas, Springfield, Ill Charles C Thomas, 1928
- 4 Moore, R F Brit. J Ophthal **13** 252-256 (May), 1929
- 5 Cavel, L L'Angiome Calcifié des Meninges Theses de Paris, 1931
- 6 Levin, J J Brit. J of Surgery, **14** 215-223 (1926-27)
- 7 McKinney, J M Acree T and Soltz S E Bull Neurol Inst. of N Y, **5** 247-278 (Aug), 1936
- 8 McKendree, C A, and Imboden, H M Arch of Neurol and Psych., **6** 529-539 (Nov.), 1921
- 9 Dollfus M A. and Renard, G Rev d'Oto-Neuro-Ocul **4** 603-610 (Oct.), 1926
- 10 Subirana A. and Tosquelles, F Rev Neurol, **41** 875-879 (July-Dec.), 1934
- 11 Durck, H. Neurol und Psych Oct 11, 1921
- 12 Weimann, W Monatsschr für Psych und Neurol Oct., 1921
- 13 Weber F Parkes Proceedings of the Royal Society of Medicine **22** 431-442 (1928-1929)
- 14 Dimitri V. Rev Assoc. Med Argent, **36** 1029-1037 (Dec.), 1923
- 15 Marquet A M Rev Oto-Neuro-Oftal, **1** 202-216 (Oct.), 1927
- 16 Brushfield, T. and Wyatt W Brit. J of Children Diseases **24** 98-106, and 209-213 (Apr-June), 1927 also **25** 96-101 (Jan-Mar), 1928
- 17 Laignel-Lavastine Delherm, and Fouquet J Rev Neurol **36** 475-479 (1929)
- 18 Vincent C. and Heuyer, G Rev Neurol, **36** 233 and 509-513 (Jan-June), 1929
- 19 Baruk, H L'Encephale, **26** 42-44 (Jan) 1931
- 20 Pehu Dechaume, J, and Boucomont, J Lyon Medical **64** 249-254 (Feb) 1932
- 21 Williams E R Brit. J of Radiology, **7** 564-565 (Sept.), 1934
- 22 Krabbe, K. H Arch of Neurol and Psych. **32** 737-755 (1934)
- 23 Montz, E, and Lima, A. Rev Neurol, **42** 743-750 (Jan-June) 1935
- 24 Dyes O Verkalkte Hirnrinde, Fortschritte auf dem Gebiete der Röntgenstrahlen **51** 409-412 (1935)
- 25 Leef, E Radiology, **27** 370-371 (Sept) 1936
- 26 Geyelin H R and Penfield, W Arch of Neurol and Psych, **21** 1020-1043 (May), 1929
- 27 Bassoe P and Hassin, G B Arch of Neurol and Psych., **6** 359-376 (Oct.), 1921
- 28 Camp J D Proceedings of the Staff Meetings of the Mayo Clinic, **4** 341-342 (Nov.), 1927
- 29 O Sullivan J Brit J Radiology, **30** 295 (1925)
- 30 Petitpierre, M. Beitrage zur Klinischen Chirurgie, **140** 532-538 (1927)
- 31 Rukstnat, G Arch of Pathol **19** 47-52 (Jan) 1935
- 32 Buckley, R. C Arch of Neurol and Psych, **23** 1203-1211 (June), 1930
- 33 Wells, H. A. Arch of Int. Med, **15** 574-580 (1915)

# PANHISTERECTOMY

## A Study Based on 2,773 Consecutive Hysterectomies

EDWARD P. McDONALD M D, F.A.C.S., Albany, New York

(From the Gynecologic Department of the Albany Hospital and the Albany Medical College)

THE primary object of this paper is to present to this section the conclusions we have drawn from a study of 2,773 consecutive hysterectomies. The secondary object is to place our clinic on record as advocating complete, total, or pan hysterectomy as a routine operative procedure of choice in benign conditions of the uterus.

Many are of the opinion that statistics mean but little and probably there is some justification for the belief. Faulkner, in presenting 1,554 cases of hysterectomy, states "If there is any value in figures it is in those from a large series of consecutive operations, done on young and old, good cases and bad, by experienced and inexperienced operators, that is, hysterectomy as it is, not hysterectomy as it might be." This we have done.

These operations were all performed in the Albany Hospital on the gynecologic service by five members of the gynecologic staff and five resident gynecologists, over a period of ten years, from January 1, 1926, to December 31, 1935. This study represents all of our cases over this period, good risks and poor ones, done principally by staff members, but with a large percentage of the service cases performed by resident gynecologists. The operations done by the residents were under the direct supervision of one of the staff members.

Of the total number of operations performed there were but 145 or 5.52 per cent of subtotal, incomplete, or supravaginal hysterectomies, with a mortality of 2.75 per cent, whereas, 2,628 or 94.48 per cent were total, complete, or pan hysterectomies, with a mortality of 1.02 per cent. The general operative mor-

tality of all cases, total and subtotal, was 1.11 per cent.

We are interested in presenting our results in support of our contention that panhysterectomy is a justifiable routine in benign conditions of the uterus. Of the 2,773 cases, 274 presented malignant disease, of these 11 died with an operative mortality of 4.01 per cent. There were 2,499 in benign conditions of the uterus, with 20 deaths and an operative mortality of 0.80 per cent. Of the 2,499 cases of benign conditions of the uterus, 2,355 had complete hysterectomies with 16 deaths and an operative mortality of 0.67 per cent.

The trend among American gynecologists seems to be more and more toward complete hysterectomy. Until recent years there were few clinics doing total hysterectomies except in carefully selected cases, such as carcinoma of the body of the uterus or extensive laceration of the cervix, and the high operative mortality was used as an argument against complete removal in benign conditions. Time was spent in amputation, repair, or cauterization of the cervix preceding the supravaginal removal of the uterus. In other words, time was spent so that the diseased cervix could be preserved, rather than spending the time in its removal and the elimination of its potential dangers. Men trusted to their gross observation of a cervix in determining a "normal" from a "diseased" organ. The fact is, that a uterus sufficiently diseased to warrant its removal seldom if ever contains a "normal cervix." The cervix left *in situ* is always potentially dangerous, it is always a liability to a patient, never an asset. Cutting across a diseased organ with its

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 11 1938*

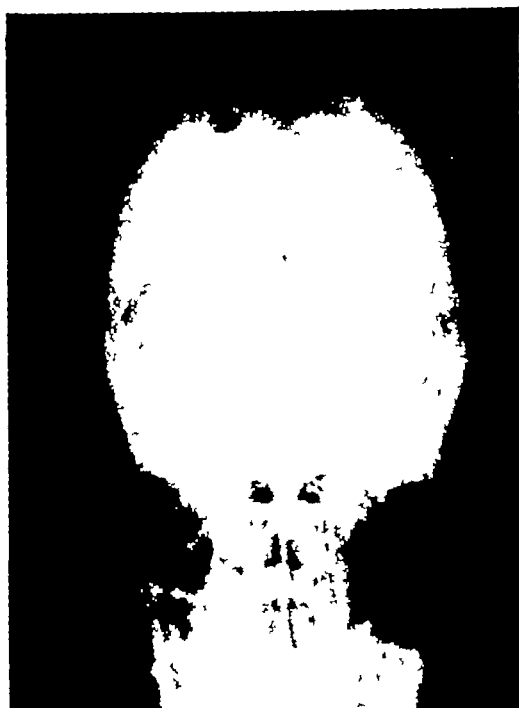


FIG 3, CASE 3 Ventriculogram, A P view

sugar, urea nitrogen, uric acid, chlorides, calcium, phosphorus, and cholesterol, blood Wassermann negative, urinalysis entirely normal with specific gravity of 1.020, spinal fluid pressure and dynamics normal, clear, colorless, 5 mononuclears per cu mm, total protein 60 mg per cent, colloidal gold 0011000000, Wassermann, negative, basal metabolism minus 13 per cent

X-rays of the skull showed scattered discrete foci of calcification measuring 1 to 3 mm in diameter, chiefly located in both occipital lobes, also present in both frontal and parietal lobes

Ventriculograms showed considerable symmetrical dilatation of the entire ventricular system with no tendency to displacement to either side

Course in Hospital Uneventful Her convulsive seizures were controlled by Luminal medication,  $\frac{1}{2}$  gr three times a day She was also given vitamin, liver extract, and iron therapy, to alleviate her anemia Mentally, she remained dull, at times overtalkative, but had no periods of confusion aside from those associated with her postconvulsive state

Summary This patient showed the following (1) multiple small areas of calcification throughout the brain, especially in the occipital lobes, (2) Bilateral chorioretinitis, (3) Generalized convulsive seizures, starting with focal clonic seizures in the left leg, (4) Mental signs of an

organic (anergasic) syndrome, (5) Evidence of moderate symmetrical internal hydrocephalus

## Summary

Three cases are described wherein multiple areas of intracerebral calcification were associated with paroxysmal convulsive disorders The subjects were 12, 16, and 39 years of age All had low basal metabolic readings Two of our patients showed atrophic chorioretinitis, with optic atrophy We believe these cases represent a clinical group in which several of the outstanding phenomena are due to faulty calcium metabolism

## References

- 1 Ostertag, B. *Virchow's Archiv für Pathologische Anatomie*, **275** 828-859 (1930)
- 2 MacDonald, C. *Brit J Radiology*, **7** 697-701 (1935)
- 3 Cushing H W, and Bailey B. *Angiomatous Malformations and Hemangioblastomas* Springfield, Ill., Charles C Thomas 1928
- 4 Moore, R F. *Brit. J Ophthal*, **13** 252-256 (May), 1929
- 5 Cavel, L. *L'Angiome Calcifié des Membranes*, Thèse de Paris 1931
- 6 Levin, J J. *Brit. J of Surgery*, **14** 215-223 (1920-27)
- 7 McKinney, J M, Acree T, and Soltz S E. *Bull Neurol Inst. of N Y*, **5** 247-278 (Aug) 1936
- 8 McKendree, C A, and Imboden, H M. *Arch of Neurol and Psych*, **6** 529-539 (Nov.), 1921
- 9 Dollfus M A, and Renard G. *Rev d'Oto-Neuro-Ocul*, **4** 803-810 (Oct.), 1920
- 10 Subirana A, and Tosquelles, F. *Rev Neurol*, **41** 875-879 (July-Dec), 1934
- 11 Durek H. *Neurol und Psych*, Oct. 11, 1921
- 12 Weimann W. *Monatsschr für Psych und Neurol*, Oct., 1921
- 13 Weber, F. *Parkes. Proceedings of the Royal Society of Medicine*, **22** 431-442 (1928-1929)
- 14 Dimitti, V. *Rev Assoc. Med Argent.*, **36** 1029-1037 (Dec.), 1923
- 15 Marqué, A M. *Rev Oto-Neuro-Oftal*, **1** 202-216 (Oct.) 1927
- 16 Brushfield, T, and Wyatt W. *Brit. J of Children Diseases*, **24** 98-106, and 209-213 (Apr-June), 1927 also **25** 98-101 (Jan-Mar), 1928
- 17 Laignel Lavastine, Delherm, and Fouquet, J. *Rev Neurol*, **36** 475-479 (1929)
- 18 Vincent C, and Heuyer, G. *Rev Neurol*, **36** 233 and 509-513 (Jan-June), 1929
- 19 Baruk, H. *L'Encephale*, **26** 42-44 (Jan) 1931
- 20 Pehu Dechaume, J, and Boucomont J. *Lyon Medical*, **64** 249-254 (Feb.), 1932
- 21 Williams E R. *Brit. J of Radiology*, **7** 564-565 (Sept.), 1934
- 22 Krabbe K. H. *Arch of Neurol and Psych*, **32** 737-755 (1934)
- 23 Moniz, E, and Lima, A. *Rev Neurol*, **42** 743-750 (Jan-June), 1935
- 24 Dyes O. *Verkalkte Hirnrinde*, *Fortschritte auf dem Gebiete der Roentgenstrahlen*, **51** 409-412 (1935)
- 25 Leef, E. *Radiology*, **27** 370-371 (Sept.) 1936
- 26 Geyelin H R, and Penfield, W. *Arch of Neurol and Psych*, **31** 1020-1043 (May), 1929
- 27 Bassoe P, and Hassin, G B. *Arch of Neurol and Psych*, **6** 359-376 (Oct.) 1921
- 28 Camp, J D. *Proceedings of the Staff Meetings of the Mayo Clinic*, **4** 341-342 (Nov.) 1927
- 29 O Sullivan J. *Brit J Radiology*, **30** 295 (1925)
- 30 Pettipierre, M. *Beitrage zur Klinischen Chirurgie*, **140** 532-538 (1927)
- 31 Rukstinat, G. *Arch of Pathol*, **19** 47-52 (Jan) 1935
- 32 Buckley, R C. *Arch of Neurol and Psych*, **23** 1203-1211 (June), 1930
- 33 Wells, H. A. *Arch of Int. Med*, **15** 574-580 (1915)

## CHART II CAUSES OF DEATH

## SUPRAVAGINAL HYSTERECTOMY

## Operation performed for

- 1 Acute and chronic pelvic inflammatory disease
- 2 Cesarean section
- 3 Myomatous uterus
- 4 Carcinoma of ovary

## Cause of death

- General toxemia—44 years of age  
Pulmonary embolus—38 years of age  
Myocardial insufficiency—63 years of age  
Bronchopneumonia—36 years of age

## PANHYSTERECTOMY

## Operation performed for

- 1 Carcinoma of body of uterus  
Carcinoma of body of uterus  
Carcinoma of body of uterus  
Carcinoma of body of uterus  
Carcinoma of body of uterus  
Carcinoma of body of uterus
- 2 Carcinoma of tube
- 3 Leiomyomatous uterus  
Leiomyomatous uterus (ovarian cyst)  
Pelvic inflammatory disease  
Pelvic inflammatory disease  
Pelvic inflammatory disease  
Pelvic inflammatory disease
- 4 Relaxed pelvic floor  
Relaxed pelvic floor
- 5 Hyperplastic endometrium (bleeding)
- 6 Ovarian cyst
- 7 The salpingitis with obstruction

## Cause of death

- Myocardial insufficiency 2 cases, 62 years of age  
With metastasis 3 cases 60 48 56 years of age  
Bronchopneumonia and paralytic ileus, 56 years of age  
Pulmonary embolus 67 years of age  
Paralytic ileus 69 years of age  
Paratyphoid infection 65 years of age  
Metastasis 60 years of age  
Bronchopneumonia 3 cases 45 40 41 years of age  
Septicemia 45 years of age  
Myocardial insufficiency 23 years of age  
General toxemia, 21 years of age  
Paralytic ileus 3 cases 34 35 36 years of age  
Lobar pneumonia 33 years of age  
General peritonitis 41 years of age  
Ileum strep peritonitis 33 years of age  
Paralytic ileus 2 cases, 42 years of age  
Septicemia 28 years of age  
Paralytic ileus 48 years of age  
Peritonitis 28 years of age

Thirty-one deaths (11 in patients with malignancy 20 in patients with benign disease)  
Twenty-one cases were autopsied

## CHART III OPERATIVE INDICATIONS

|                          | 1926 | '27 | '28 | '29 | '30 | '31 | '32 | '33 | '34 | '35 | TOTAL | DEATHS              | OPERAT MORTAL. |  |
|--------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---------------------|----------------|--|
| Ca. body of uterus       | 11   | 14  | 13  | 18  | 14  | 20  | 16  | 26  | 26  | 20  | 177   | 10<br>1 tube<br>Ca. | 5.64           | Malignant conditions<br>274 cases<br>11 deaths<br>4.01% op. mort.  |
| Ca. cervix               | 3    | 2   | 4   | 0   | 1   | 8   | 0   | 0   | 5   | 4   | 45    | 0                   | 0              |  |
| Ca. ovary                | 4    | 2   | 2   | 4   | 4   | 8   | 9   | 10  | 6   | 3   | 52    | 1                   | 1.92           |  |
| Leiomyomata              | 63   | 74  | 69  | 94  | 90  | 117 | 96  | 109 | 125 | 106 | 935   | 5                   | 0.53           | Benign conditions<br>2 499 cases<br>20 deaths<br>0.80% op mort.  |
| Pel. inf. dis.           | 47   | 29  | 25  | 43  | 56  | 58  | 55  | 62  | 71  | 66  | 612   | 8                   | 1.36           |  |
| Inf. of childbirth       | 5    | 10  | 13  | 30  | 44  | 68  | 69  | 85  | 37  | 21  | 333   | 3                   | 0.89           |  |
| Myofibrosis              | 4    | 4   | 5   | 14  | 21  | 13  | 12  | 18  | 14  | 14  | 119   | 0                   | 0              | Benign conditions<br>in which pan<br>hysterectomy<br>was performed<br>2 355 cases<br>16 deaths<br>0.67% op mort. |
| Ovarian cyst             | 0    | 4   | 3   | 4   | 10  | 16  | 11  | 14  | 22  | 23  | 107   | 1                   | 0.93           |  |
| Hyperplastic endometrium | 14   | 11  | 4   | 6   | 6   | 2   | 3   | 15  | 9   | 26  | 96    | 1                   | 1.04           |  |
| Dysmenorrhea             | 11   | 13  | 12  | 25  | 31  | 22  | 28  | 24  | 36  | 37  | 229   | 0                   | 0              | Benign conditions<br>in which pan<br>hysterectomy<br>was performed<br>2 355 cases<br>16 deaths<br>0.67% op mort. |
| Ruptured tubal pregnancy | 4    | 5   | 4   | 3   | 1   | 7   | 3   | 4   | 12  | 7   | 60    | 0                   | 0              |  |
| The salpingitis          | 4    | 1   | 5   | 2   | 1   | 5   | 2   | 3   | 2   | 1   | 26    | 1                   | 3.84           |  |
| Miscellaneous            | 0    | 1   | 4   | 6   | 7   | 6   | 8   | 7   | 11  | 16  | 65    | 1                   | 1              | Cesarian section   |
|                          |      |     |     |     |     |     |     |     |     |     |       |                     |                |  |

Richardson, in one of his papers, gives good advice "Complete mastery of a satisfactory technic for total removal of the uterus by both the abdominal and the vaginal routes is a minimum standard of operative skill that every gynecologist should exact of himself as early in his career as the circumstances of his period of apprenticeship will permit. Otherwise, he will find himself frequently confronted with situations in which the best interests of his patients cannot be served because of his lack of proficiency in executing the operation that is best adapted to their needs." I am certain that in the hands of untrained men, the minor, but often

times, major, operation of appendectomy might carry with it an alarming mortality.

The danger of injury to surrounding structures is in direct proportion to the care, skill, and ability of the operator. I do not mean to infer that all operative accidents are avoidable. The size of the patient, the depth of the pelvis, the lack of proper exposure, and the type of pelvic disease, are all factors which predispose to accident.

In our series of cases, 2 deaths are directly due to just such accidents. One died of peritonitis. At autopsy, a small perforation was found in the anterior rectal wall. It was a case of pelvic in



flammatory disease with large, adherent, bilateral tube-ovarian masses I am sure that if we did then what we do now in all cases where there is even a possibility of bowel injury, that is, fill the rectum with water before closing the abdomen, the injury would have been discovered and repaired, and possibly the patient's life would have been saved. The second case was an injury to the fundus of the bladder sustained during the difficult removal of a leiomyomatous uterus. The injury was repaired at the time, but the patient died of peritonitis and septicemia. However, one must keep in mind that exactly the same accidents could happen during the procedure of supravaginal hysterectomy.

In panhysterectomy, where the bladder is freed from the cervix, I believe the chance of injury to it is less than in supravaginal hysterectomy. Injury to the ureters can frequently be avoided by a thorough knowledge of the pelvic anatomy and the ligation of the uterine arteries close to the cervix. If there is any question, locating the ureters is no problem. Injury to the rectum is possible in both procedures, but probably more so in complete removal. We do not fear this in the average case. Where there is any question of injury, we test the large bowel as stated above.

There is no sound anatomic reason to support the statement that "the cervix left *in situ* supports the vaginal vault." I have solicited the opinion of anatomists on this point and they are not willing to subscribe to it. We do know, however, that the cervix left in place frequently serves as an excellent runner for the bladder to slide down upon, and that varying degrees of bladder prolapse are not uncommonly found after supravaginal hysterectomy.

We do not feel that removal of the cervix shortens the vaginal canal. Correct utilization of the round ligaments will more often lengthen the canal. It is difficult to see how the removal of a large lacerated cervix is going to lessen the capacity or length of a vaginal canal. The cervix is potentially dangerous, both from the standpoint of possible malignancy

and of the more common finding, chronic and acute infection, specific and nonspecific, with its distressing vaginal discharge. Chronic infection has long been accepted as a predisposing factor in carcinoma. The disadvantages of a remaining cervix are obvious, the advantages we have yet to find.

Cancer of the cervical stump does occur, perhaps more often than we suppose. In a review of the literature, von Graff found that in 4,269 cases of cancer of the cervix, 41 per cent present were stump cancers. The percentage usually given is between 2 and 6 per cent. Perhaps 3 or 4 per cent comes closer to the real figure.

The association of cervical cancer with leiomyomata deserves careful thought. It has been stated that the cervix in 3 to 5 per cent of fibroid tumors has or develops malignancy, and that two-thirds of all stump cancers follow supravaginal hysterectomy for uterine tumors. And yet, some believe that a leiomyomatous uterus in a nulliparous woman is an indication for supravaginal hysterectomy. The feeling that cervical cancer is rare in the nulliparous woman has long ago been proved incorrect.

Coring or cauterization of the endocervix is no guarantee against carcinoma. The fact is the squamous portion of the cervix is the most frequent sight of the growth (von Graff, 80 per cent). As high as 14 per cent cures have been reported in cases of stump cancer which developed in less than three years after the supravaginal hysterectomy. We feel that the true progress in malignant disease should follow the road of prophylaxis rather than that of treatment, at least until the etiologic factor is established.

I am not unmindful of the fact that if panhysterectomy is done promiscuously by those untrained in pelvic surgery, the mortality will be high. Certainly it is not the object of this paper to advocate the acceptance of this procedure by men who do but an occasional hysterectomy, neither is it intended to give the impression that a supravaginal hysterectomy in selected cases is wrong. The operator must select the type of operation which he

feels is to the best interest of the patient and proceed accordingly. We feel that complete hysterectomy is the operative procedure of choice, not only in malignant, but also in benign, conditions of the uterus.

### Conclusions

1 The report of a study of 2,773 consecutive hysterectomies, 94.4 per cent of which were total hysterectomies.

2 Cervical stump cancer is not as rare as it was formerly supposed to be.

3 A cervical stump is a menace to the individual both from the standpoint of malignancy and of infection. It is a liability, never an asset.

4 In the hands of a competent operator, we unhesitatingly recommend total, complete, or panhysterectomy as the operative procedure of choice.

352 State Street

### References

1. Faulkner. Ohio State M. J. 33: (March) 1935.
2. Goodall. Am. J. Obst. & Gynec. 32: (Oct.) 1936.
3. Richardson. Am. J. Obst. & Gynec. 30: No. 2 (Aug.) 1935.
4. von Graff. Am. J. Obst. & Gynec. 28. (1934)

### Discussion

Dr. Frederick C. Holden, New York.—We have just listened to a very interesting paper on the operative results of 2,628 complete hysterectomies done by five well trained gynecologists and five residents operating under their direction during a ten year period from 1920 to 1935.

Of these cases 274 were done for malignant diseases with an operative mortality of 4.01 per cent. In 2,355 complete hysterectomies were done for nonmalignant pathology with an operative mortality of 0.67 per cent. I agree with Dr. McDonald that the trend among American gynecologists seems to be more toward complete hysterectomy. It goes without saying that a retained cervix may at some time become malignant, but Dickinson and I have yet to see carcinoma develop in a cervix whose pathology we have cleared up with the electrocautery as we use it.

I take exception to Dr. McDonald's statement that complete hysterectomy does not shorten the vagina. Given a nulliparous woman with a short vagina complete hysterectomy will increase the possibility of further shortening with a resultant incurable dyspareunia. Dr. McDonald makes the statement we cannot subscribe to the belief that panhysterectomy carries with it

an increased mortality. This statement is true only when the operation is done by as competent a group as the gynecologists of the Albany Hospital who have perfected their technique by doing a tremendous number of such cases. Even in the hands of most competent operators the morbidity and mortality are undoubtedly greater in the panhysterectomy than in the supracervical hysterectomy. In this connection it is interesting to note that in 1927 of the 149 complete hysterectomies done the mortality was 2.34 per cent. Eight years afterward in 1934 372 complete hysterectomies were done by this same group with a mortality of 0.80 per cent—two-thirds less. Two thousand six hundred and twenty-eight complete hysterectomies in ten years is a very large number ranging from 130 in 1920 to 372 in 1934. Only the same staff operating such a very large number of cases could present results as good as these. However there are definite indications for supra vaginal hysterectomy and for complete hysterectomy. I therefore cannot subscribe to 94.5 per cent choice of complete hysterectomy as a routine procedure.

Will Dr. McDonald please tell us what is his preoperative preparation? Also given a woman with an adipose abdominal wall and a deep pelvis does Dr. McDonald free the cervical mucous membrane *per vaginam* first to facilitate the subsequent operative procedure above?

In reading over the paper I was unable to find any mention made of ureteral injuries and only one case each of injury to bladder and rectum. The use of the 'internal hot water bag' of Dr. John Clarke to determine whether or not there has been any bowel injury is an excellent plan as it definitely will indicate if the bowel has been injured and if so this can be repaired before abdominal closure. I recommend this procedure highly.

Murphy of the Woman's Hospital reported that during the last eight years 438 complete hysterectomies were done at this hospital with 3 vesicovaginal fistulas resulting. During this same period, 1,229 supracervical hysterectomies were done. Urinary infections occurred three times more frequently following complete hysterectomy and ureteral and bladder injuries occurred ten times more often in the total hysterectomy group. These are figures from an excellent gynecologic service.

I do not think it is unfair to say that, if all hysterectomies done were of the complete type the total death rate would be greater compared with what it is now with supracervical hysterectomies plus subsequent cancer deaths resulting from the retained cervix. If the cervix had

proper postoperative care, these cancer deaths could undoubtedly be greatly reduced

In closing I must offer my hearty congratulations to the Albany Hospital group who have so perfected their technic as to reduce their operative mortality—the total hysterectomy group of 2,628 consecutive cases to 1.11 per cent, and that they are able to report operative injury only once each to bladder and rectum, no ureteral injuries, and no vesicovaginal fistulas. I do not know of any other clinic able to report such excellent results.

I trust this paper will not be the cause of an increased operative mortality by other groups not so well trained, but we all should be inspired to emulate McDonald and his confreres in their perfection of the operative technic of complete hysterectomies.

Dr Erwin von Graff, *New York City*—As a pupil of the late Ernst Wertheim, I have always been in favor of the total hysterectomy and advocated it as the procedure of choice.

The main reason for this attitude has been the appalling number of stump cancers I have observed, both in Vienna and in the State of Iowa, with its unusually high rate of malignant tumors. Eight per cent of all the cervical cancers had developed on cervical stumps following subtotal hysterectomies.

By the most efficient combined treatment with operation and irradiation, we are able to cure

only 24 per cent of cervical cancers. The elimination of an added 8 per cent of stump cancers therefore constitutes an important gain and deserves serious consideration.

As to Dr F C Holden's remark concerning the possibility of preventing the development of cancer by proper treatment of the cervical stump, I must report that there were 37 cases among the material I published five years ago, in which cancer appeared in spite of coming out, plastic repair, carbolization cautery, and application of radium. Technical difficulties in obese women can, in most instances, be circumvented by the vaginal approach.

My own operative results, with a mortality of 1.4 per cent in 480 abdominal total hysterectomies, are not as good as those reported by Dr McDonald. In spite of this, the potential danger of malignancy and the many advantages stressed by the speaker have convinced me once more of the superiority of the total over the subtotal hysterectomy.

The subtotal has, and always will have, its place in selected cases. I certainly do not recommend the more radical procedure in the hands of unskilled operators. However, I feel very strongly that any pelvic surgeon who accepts the responsibility of performing a subtotal should be sufficiently competent and experienced to perform a total hysterectomy if the necessity arises.

## A RECORD YEAR IN SOCIAL HYGIENE

New York City has taken a place in the forefront of the nationwide effort to reduce syphilis and gonorrhea, says the report of the city Bureau of Social Hygiene. The individuals treated in 1938 totalled 31,109, an increase of 41 per cent over 1937. Treatments administered totalled 501,265, an increase of 24 per cent over 1937. The decrease in the number of treatments per patient has been brought about by consultation and improved treatment, and represents increased clinical efficiency. Delinquent cases are followed up by social service workers, in 1938, 16,712 lapsed cases were returned to treatment. In addition, 8,308 contacts and 804 named sources of infection were brought in for examination, of these, 11.5 per cent and 20.5 per cent, respectively, were found diseased.

To aid private physicians in discovering, treating, and controlling syphilis among their patients, free blood tests, darkfield examinations, smears and intradermal tests for lymphogranuloma inguinale are performed. The services of medical

and nurse epidemiologists and investigators are available to private physicians for consultation, to follow up lapsed cases, and to locate sources of infection and contacts. During 1938, 1,009 physicians were visited and interviewed.

To enable as many patients as possible to continue under the care of private physicians, 529,500 doses of drugs for the treatment of syphilis were distributed during 1938 to private physicians and hospitals. Of these, 426,130 or 80 per cent were distributed to private physicians and the remainder to hospitals. The amount distributed to private physicians is equivalent to the 439,620 syphilis treatments given by Health Department clinics during 1938.

Private physicians have been co-operating with the Bureau in its effort to have syphilis and gonorrhea reported properly. During 1938, 37,077 cases of syphilis and 12,935 cases of gonorrhea were reported. This is over four times as many as were reported in 1937. Private physicians reported 40 per cent of the total cases.

# DOSAGE SPECIFICATIONS IN X-RAY THERAPY

EDITH H. QUIMBY, New York City

(Associate Physicist Memorial Hospital)

**I**N GENERAL, when a new form of therapy is discovered, there is a period during its gradual acceptance when the expression of its dosage undergoes development. Various schemes or methods may be suggested, tried out, and discarded. Finally one is adopted, becomes familiar, its use becomes routine, and precautions necessary to its correct employment are taken automatically.

The expression of dosage in radiation therapy is still in the developmental stage, although during the past year steps have been taken to stabilize it by the adoption of a satisfactory unit.

Time does not permit any historical consideration of the development of various methods of dosage specification, the purpose of the present paper is to discuss the unit recently adopted, point out the precautions which must be observed in its use, and note its limitations.

Almost ten years ago, at the meeting of the Second International Congress of Radiology, the *roentgen* was adopted as the unit of quantity of x rays<sup>1</sup>. As defined at that time, this unit could be used correctly only for the measurement in air of quantity of x rays, over a limited range of quality. During the next nine years, efforts were made continually to extend its use both to higher voltage x rays and gamma rays in air, and to all qualities of radiation in tissue. Finally, at the Fifth International Congress, in 1937, the definition of the roentgen was changed to facilitate its use in these aspects of the problem<sup>2</sup>. The roentgen is now defined as that quantity of radiation whose corpuscular emission produces in 0.001293 Gm \* of dry air one electrostatic unit of

charge of either sign. Nothing is said about the manner in which the measurement shall be made, the necessary precautions, or the limitations of the results. Such measurement, for hard radiations, and for radiations in tissues, is one of the problems occupying radiologic physicists at the present time. It is being necessary to develop special types of ionization chambers to be sure that all the ions correctly included are measured, and that no extraneous ones are introduced. The development of correct measuring methods is the problem of the physicist rather than that of the practicing radiologist, accordingly, a discussion of this aspect of the problem is hardly desirable at the present time.

Assuming that a correct measurement is possible, let us consider what is actually meant when one speaks of air dose or of tissue dose in terms of roentgens. Throughout any beam of x rays, the matter traversed is being ionized. It is assumed that biologic reactions are a direct consequence of this ionization, and that a definite relation exists between the amount of ionization and the effect to be expected. Ionization in the tissues cannot be measured directly at the present time, however, under proper conditions the ionization in an extremely small volume of air in the midst of tissue can be determined. Since the composition of air and that of tissue are quite similar, it may be assumed for dosage purposes that equal ionization is produced in equal masses of air and of tissue.†

For the calibration of the x ray tube, on which rests the determination of the dose in air in any particular case, a particular small volume of air is selected, in the center of the beam and at a definite distance from the target, and the number

\* 0.001293 Gm. is the mass of 1 cc. of dry air under standard conditions.

† Experiments are being conducted to determine the extent of the differences between ionization in air and in gases having the same composition as tissue.

TABLE I—NUMBER OF ROENTGENS DELIVERED AT CENTER OF VARIOUS SKIN FIELDS FOR 100 ROENTGENS IN AIR

| VOLTAGE Kv<br>(Const. Pot.) | FILTER<br>Mm | HALF VALUE<br>LAYER<br>Mm. Cu | AREA OF FIELD, Sq Cm |     |                                |     |     |     |     |
|-----------------------------|--------------|-------------------------------|----------------------|-----|--------------------------------|-----|-----|-----|-----|
|                             |              |                               | 5                    | 10  | 25<br>No of r for 100 r in Air | 50  | 100 | 200 | 400 |
| 100                         | 0            | 0.035                         | 110                  | 114 | 117                            | 121 | 124 | 126 | 128 |
| 150                         | 5 Al         | 0.3                           | 114                  | 118 | 124                            | 130 | 134 | 140 | 147 |
| 200                         | 0.5 Cu       | 1.0                           | 114                  | 118 | 124                            | 130 | 136 | 143 | 149 |
| 200                         | 2.0 Cu       | 2.0                           | 109                  | 112 | 117                            | 121 | 126 | 131 | 136 |

of ions produced in it is measured. The weight of this small volume of air can be found from standard tables, and the number of ions per 0.001293 Gm determined. One electrostatic unit of charge consists of  $4.19 \times 10^{10}$  ions, that is, they represent the effect in this amount of air of one roentgen. The number of roentgens thus determined is spoken of as the output of the tube.

If the attention be concentrated on a minute volume of air in the x-ray beam, which may be taken as representative of a minute volume of tissue, the discussion of the meaning of dosage specifications will be facilitated. Consider, first, this volume in air, as the calibration is made. Every roentgen passing through it produces ions in it at the rate specified by the calibration; this is the result of the air dose. If, now, a patient is brought directly under this small volume of air, the ionization in it is markedly increased, because, in addition to the primary beam, there is now radiation scattered back by the body of the patient. The amount of this scatter will depend, among other things, on the size of the irradiated area. It is well known that, whereas the size of the diaphragm in general has little or no influence on the ionization at the center of the beam in air, the size of the field is very important in a consideration of back-scatter. With a small one, very little of the patient's body contributes to the effect, so that the increase in ionization will be slight, whereas with a large one it will be greater. Actually, with a very large field it may amount to more than 50 per cent of that caused by the primary beam. It is the sum of the primary and back-scattered radiation, represented by this total ionization, which is effective in the patient's skin in the region repre-

sented by the minute volume of air under consideration.

It is evident that if only a thin part of the body is irradiated—a hand, for instance—less back-scatter will result, for any size of field, than for a thick part.

Moreover, it is true that different qualities of radiation are scattered differently. The maximum back-scatter is obtained with radiation having a half value layer of about half a millimeter of copper; this is obtained at about 150 kv and 4 or 5 mm of aluminium filter (so-called "intermediate voltage"), for either harder or softer radiation it becomes progressively less.

From these considerations it is evident that, whereas a dose of radiation in air can be determined simply from the calibration of the machine, the dose effective on the surface of the body can be found only when the back-scatter factor is known for the proper quality of radiation, size of field, and thickness of underlying material. Of course, if a properly designed ionization chamber could be put on the skin at the center of the field, the number of roentgens passing through that region could be read directly. Unfortunately, most of the available small chambers have wall effects and other peculiarities which make them inaccurate. However, with the extensive tables which are now available, it is a simple matter to determine the skin dose when the air dose and treatment details are known. Table I shows the skin dose, for 100 roentgens in air, for four qualities of radiation commonly used, for a wide range of fields, assuming enough underlying material to assure the maximum back-scatter. Comprehensive tables of this sort are published elsewhere.<sup>4</sup>

It should be stated that distance from

TABLE II—NUMBER OF ROENTGENS DELIVERED AT VARIOUS DEPTHS IN FIELDS OF VARIOUS SIZES, FOR 100 ROENTGENS IN AIR

| 200 Kv (Const. Pot.) 0.5 Mm. Cu Filter. H V L. 1.0 Mm. Cu |        |     |     |        |     |     |        |     |     |        |     |     |        |     |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
|---|--------|-----|-----|--------|-----|-----|--------|-----|-----|--------|-----|-----|--------|-----|-----|--------|----|-----|--------|-----|-----|--------|----|-----|--------|----|-----|--------|--|--|
| AREA OF FIELD SQ. CM.                                     |        |     |     |        |     |     |        |     |     |        |     |     |        |     |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 5   |        |     |     | 10     |     |     |        | 25  |     |        |     | 50  |        |     |     | 100    |    |     |        | 200 |     |        |    | 400 |        |    |     |        |  |  |
| DEPTH<br>CM.  | 50 CM. |     |     | 70 CM. |     |     | 50 CM. |     |     | 70 CM. |     |     | 50 CM. |     |     | 70 CM. |    |     | 50 CM. |     |     | 70 CM. |    |     | 50 CM. |    |     | 70 CM. |  |  |
|   | 50     | 70  | 100 | 50     | 70  | 100 | 50     | 70  | 100 | 50     | 70  | 100 | 50     | 70  | 100 | 50     | 70 | 100 | 50     | 70  | 100 | 50     | 70 | 100 | 50     | 70 | 100 |        |  |  |
| 0   | 114    | 114 | 118 | 118    | 124 | 124 | 130    | 130 | 136 | 136    | 143 | 148 | 149    | 149 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 1   | 85     | 90  | 103 | 104    | 115 | 116 | 125    | 126 | 133 | 134    | 143 | 144 | 150    | 152 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 2   | 70     | 81  | 87  | 89     | 100 | 102 | 111    | 113 | 121 | 123    | 134 | 137 | 139    | 142 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 3   | 63     | 65  | 70  | 72     | 87  | 90  | 96     | 99  | 107 | 110    | 120 | 124 | 131    | 136 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 4   | 43     | 46  | 50  | 53     | 61  | 65  | 72     | 76  | 82  | 87     | 96  | 102 | 108    | 114 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 5   | 39     | 41  | 44  | 47     | 55  | 58  | 65     | 69  | 75  | 80     | 88  | 94  | 100    | 106 |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 7   | 31     | 33  | 36  | 39     | 47  | 50  | 57     | 61  | 67  | 72     | 80  | 86  | 92     | 98  |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 10  | 17     | 19  | 22  | 25     | 33  | 36  | 43     | 47  | 53  | 58     | 66  | 71  | 77     | 83  |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |
| 15  | 6      | 7   | 8   | 9      | 11  | 13  | 16     | 18  | 22  | 25     | 31  | 35  | 41     | 46  |     |        |    |     |        |     |     |        |    |     |        |    |     |        |  |  |

the source (at least within the limits used in therapy) has no effect on the relation of skin dose to air dose. Of course the distance affects the amount of radiation reaching a given point in a given time, the farther away the source the longer it takes to deliver a given amount of radiation. But for the same irradiated area and the same quality of radiation, substantially the same percentage is scattered back.

In the measurement of dosage within the body, the number of ions produced per 0.001293 Gm in a vanishingly small volume of air in the location under consideration must be determined, in order to obtain what at present appears to be the most direct measure of tissue dose. Obviously in general even if the skin dose could be obtained by direct measurement on the patient, the depth dose could not, since only rarely can the measuring instrument be introduced into the body. However, with suitable chambers and phantoms it is possible to make measurements which can be used to express the tissue dose under any given set of conditions. Table II shows the number of roentgens delivered at various depths in fields of various sizes, per 100 roentgens in air, for radiation at 200 kv, 0.5 mm. copper filter, half value layer 1 mm copper, for 50 and 70 cm. target skin distances. Of course the values for zero depth are the same as those for the skin dose in Table I, for this quality of radiation.

Although the distance makes no difference in the relation of the skin dose to the air dose, it does make a considerable difference in the relation of the depth dose

to either the skin or the air dose. This is purely a matter of geometry, for this reason, when depth doses have been found for one distance, they may be calculated for others, within reasonable limits.

It is important that measurements used for determining tissue doses shall have been made in phantoms comparable in size with the part of the body undergoing treatment. The use of data obtained with large phantoms to specify doses in smaller portions of the body, such as the limbs or neck, may introduce errors because of the difference in the actual amounts of scattering material in the two cases. Tables will be available in the near future for depth doses for various fields, distances, qualities of radiation, and parts of the body.

Consider now what is really meant when the dose of radiation delivered to the patient is expressed in roentgens, both on the skin and in the tumor. It is the amount of radiation passing through the region which is specified, it is, however, the resulting ionization which is implicitly thought of. For example, suppose that a lesion is so situated that it can be irradiated through an anterior and a lateral field, being 10 cm. below the surface in the former and 7 cm. in the latter case. Using 200 kv, 0.5 mm copper, and a 50 cm distance, 1,000 r measured in air are given to a 100 sq cm anterior port and to a 50 sq cm. lateral one. The amount of radiation effective on the skin can be determined from Table I, 1,360 r for the larger, and 1,300 r for the smaller field. This means that ionization is produced in these two regions as already dis-

cussed As the two beams pass through the body, each produces ions throughout its path—the manifestation of the depth dose This becomes less per unit volume as the depth increases, because of the absorption and scattering of the radiation as well as because of the geometric spreading of the rays For any depth in either field, in this particular case, the depth dose can be determined from Table II In the region of the tumor, where the beams cross, the ionization produced by each is independent of the other, and the total effect is due to their sum In this instance, at the center of the tumor, the depth dose is 410 r from the larger beam and 530 r from the smaller (the depth for this latter being less), 940 r altogether

It is evident that, while it is correct to add the doses to the tumor from two (or more) different ports, and state the tumor dose as the total, it is not correct to add the doses to all the skin fields and state this as the dose administered to the patient As a matter of fact, the main reason for stating the skin dose is to give some idea of the skin reaction to be expected This cannot be had from a mere knowledge of the total number of roentgens, it is necessary to know also the number of ports and the division of the roentgens among them One would not say that a patient received four erythema doses to his skin, if he actually received one erythema dose to each of four fields, the statement of total skin dose in roentgens has just as little meaning

It has been customary in this country to express tissue doses in terms of some form of erythema dose The transition to roentgens is not difficult, but there are some errors which must be avoided The relation between the two, for the standard threshold erythema dose and a particular field and quality of radiation, is given in Table III One threshold erythema dose, *in air*, for the specified field, is 500 r, this means 680 r on the skin (36 per cent back-scatter) Of this skin dose, percentage depth doses can be taken as usual But percentage depth dose, based on 100 per cent at the surface, cannot, of course, be applied to the roentgen dose as specified

TABLE III —RELATION BETWEEN THRESHOLD ERYTHEMA DOSES AND ROENTGENS  
200 Kv 0.5 MM. Cu FILTER. 10 MM Cu HVL.  
100 Sq Cm FIELD 50 Cm TARGET-SKIN DISTANCE.  
1 T E D = 500 ROENTGENS IN AIR

| DEPTH<br>CM | NUMBER<br>OF<br>ROENTGENS<br>TO TISSUE | PERCENTAGE<br>OF<br>AIR DOSE | PERCENTAGE<br>OF<br>SURFACE<br>DOSE | T E D |
|-------------|--|------------------------------|-------------------------------------|-------|
| 0           | 680                                    | 136                          | 100                                 | 1     |
| 1           | 665                                    | 133                          | 98                                  | 0.98  |
| 2           | 605                                    | 121                          | 89                                  | 0.89  |
| 3           | 535                                    | 107                          | 79                                  | 0.79  |
| 5           | 400                                    | 82                           | 60                                  | 0.60  |
| 7           | 305                                    | 61                           | 45                                  | 0.45  |
| 10          | 205                                    | 41                           | 30                                  | 0.30  |
| 15          | 110                                    | 22                           | 16                                  | 0.16  |

in air On the other hand, if the tissue dose has been worked out in roentgens from the start, and it is desired to translate this into erythema doses for the sake of comparison with old data, it must be remembered that *the number of roentgens to be taken for the erythema dose is that including back-scatter, not that in air* In other words, to translate the roentgen doses in Table II into threshold erythema doses, for the 100 sq cm field, the erythema dose is 680 r, not 500 r, for this particular quality of radiation (This applies strictly only to radiation delivered at a fairly high rate and in one sitting If the treatment is protracted or fractionated, the number of roentgens per actual erythema dose, whether specified in air or on the skin, will be greater However, in practice the total radiation delivered is often specified in terms of a total number of erythema doses, no allowance being made for a time factor In such a case it is most important to state the magnitudes of the individual doses and the intervals between them )

In any complete scheme of specification of radiation dosage, it is necessary to state the quality as well as the quantity of the radiation This is conventionally done by the half value layer of the radiation in some convenient metal—aluminum, copper, or tin, depending on the voltage range Such measurements are, of necessity, made on the primary beam in air

If the quality of the radiation had no influence on the biologic result to be expected, it could be ignored, a given num-

ber of ions produced in a certain region would produce the same effect, regardless of the wave length of the rays producing them. In such a case, if a lesion were treated with a combination of soft x rays and gamma rays, it would be legitimate to express the total dose by a direct addition of the numbers of roentgens in the two cases. However it is not at all certain that this is the case in general, and it is well known that in some instances, especially in the skin reaction, the effect produced by a given dose is dependent on the quality of the primary beam.

As the radiation passes through the body, its average quality changes, it becomes softer. As energy from the rays is used up in producing ionization, that remaining becomes steadily less, on the average. Even if the beam is fairly homogeneous as it enters the body, it becomes more and more heterogeneous as its component rays undergo varying amounts of absorption and scattering. It is evident, therefore, that if a lesion is at quite different distances from various skin portals, the quality of radiation it receives may be different for different beams, even if the initial qualities were the same. For deep-seated tumors this difference is probably not enough to be significant. There is, however, one case in which attention might well be paid to it, and that is in connection with the *exit dose*. This is the amount of radiation delivered on any skin surface by a beam which has previously traversed the body, for example, the amount delivered on one side of the neck by the beam which was incident on the other side. With penetrating radiation and small body thickness, this contribution may be considerable. It consists of radiation definitely softer than the primary beam, and hence more effective in producing skin reaction. Simple addition of the numbers of roentgens in the two parts of the dose on this skin field might give a false idea of the reaction to be expected. The portion which is due to the exit dose may exert an unduly large influence. This is one good reason for so arranging the fields (when possible) that the

port of exit does not coincide with the port of entry of another beam.

In addition to all these physical considerations, it must not be lost sight of that certain biologic considerations are significant. The intrinsic factors of relative sensitivity of various organs and various types of diseased tissue, as well as of the whole individual, are matters for the radiologist to consider in any plan of treatment. The extrinsic factors concerned with the rate of administration of the radiation, that is, the fractionation and the protraction, play an important part. In order to specify the biologically effective dose over a period of time, some means must be found to express the net biologic effect, allowing for tissue recovery. This is not a simple problem, nor can results obtained for any one organ or tissue be applied to any other without further investigation. Experimental work on laboratory biologic media has no direct application to human reactions. Observations on the behavior of the human skin form the basis for most of the systematic study of recovery up to the present time. Early efforts along these lines were directed toward the finding of a constant daily recovery factor, which was dependent on the quality of the radiation. Later it was shown experimentally that, during a series of treatments, much greater recovery takes place in the twenty-four hours following the first one than in any subsequent equal period. Previously unirradiated skin combats the action of the rays more strongly than that which has undergone any degree whatever of radiation damage. During a course of repeated irradiations, recovery on successive days is progressively less until a point is reached (if the treatment is carried on long enough) after which damage is permanent. There are, however, no very definite data on the rate of recovery of other tissues. Probably under certain conditions each tissue has its own recovery rate.

In some cases the accumulated dose in the skin can be satisfactorily calculated on the basis of published tables, but this



work is still incomplete No data are as yet available for determining the accumulation of dosage in any other human tissues

Since the method of dosage specification in radiation therapy is still definitely in the developmental stage, it should be urged upon all radiologists in recording their treatments, to note all possible factors, both physical and biologic With these available, the data will be useful at any future time, even though units may still undergo considerable change

References

1 Report of the International X-Ray Unit Committee after the Second International Congress of Radiology, *Am. J Roentgenol and Rad Ther*, 20 470 (1928)  
2 Report of the International Committee for Radiological Units, after the Fifth International Congress of Radiology, *Radiology*, 29 634 (1937)  
3 Naidu, R. Ionization in Air and in Gas Mixtures Approximating Composition of Tissues To be published in *Am. J Roentgenol and Rad. Ther*, 1939  
4 Quimby, Edith H, Marinelli, L D, and Farrow, J H. A Study of Back-Scatter *Am J Roentgenol and Rad Ther* 39 799 (1938)

Discussion

Dr Harriet C. McIntosh, *New York City*—While current schemes of dosage administration might go on about as well measured in percentages as in roentgens, the enlarged and clarified picture of what we are actually doing, as illustrated by this paper, has certainly put us another good step forward in our attack on the dosage problem, and correspondingly narrowed the No Man's Land that still exists It is striking to realize how much of this mapping and surveying of uncharted territory Mrs Quimby herself is responsible for, but there is still, as we know, much undiscovered or incompletely surveyed Mrs Quimby's contribution today is based on single doses, or closely massed fractions What about the values obtained in ionizing a fragment of carcinoma tissue in the center of the pelvis by intermittent treatments, a few minutes or an hour per day out of 40 successive twenty-four-hour days? We are in acute need of knowing more about that What if ionization at depth, while physically quantitative, is in as yet unmeasured ways biologically qualitative—in other ways, I mean, than the matter of the exit dose? We need to know about that, just as badly

One minor but practical suggestion occurs to me about this most interesting paper I wonder if Mrs Quimby will, when this paper is published, or as soon as possible thereafter, give us the equivalents of these tables with several

other of the filters commonly used, such as 1 mm of copper, or the Thoraeus?

But sufficient unto the day is the illumination thereof I wish to express my great appreciation of the privilege of listening to, and of discussing, Mrs Quimby's most valuable paper

I have had the privilege of intermittent association with Mrs Quimby for a goodly number of years, and to my immeasurable advantage Through countless visits and telephone conversations she has resolved for me many perplexities, and eased many emergency tight-spots, always with kindness and patience, occasionally with a firm hand And one of the most firm-handed of her precepts was this "Remember, we have no right at present to try to express depth doses in roentgens" I have felt the weight of this dictum in various cross-firing problems, particularly in some studies I made correlating depth dose with lung changes in pulmonary radiation Now I rejoice that she has arrived at the point of permitting herself and us to measure depth doses in roentgens Most of us have done it, roughly and in contraband fashion I imagine, to express relative values to ourselves or make them more graphic to a clinician And I wonder, in passing, how many of us have exemplified cultural lag by doing this without stopping to think about back-scatter?

Suppose we are going to do a little mild ionizing of the pituitary (I refrain from calling it stimulation, or depression), in an amenorrhea case. We say "300 r through a lateral port, head 16 cm thick laterally, pituitary at 8 cm, value with such and such factors of 30 per cent at depth of 8 cm—about 90 r" Whereas from Mrs Quimby's chart it would be 114 r Not a great error, perhaps, in this low dose radiation, but a dangerous example of loose thinking How much sounder ground are we on now that we have a proved right to say, "I will ionize such and such tissue at such and such depths to the value of so many roentgens"

Dr. Carl B Braestrup, *Physicist, New York City*—Dr Quimby has very completely covered the important subject of dosage expression as well as the significance of the various physical factors applied in roentgen therapy

The described method of dosage specification deserves particular attention as it conforms closely to that of the Standardization Committee of the Radiological Society of North America Its recommendations were published in the form of standard dosage charts in the May, 1937, issue of *Radiology* The general adoption of these charts would assure a more uniform method of dosage expression, with ample accuracy for

clinical purposes. I believe Dr Quimby's clear exposition will do much to encourage the employment of all dosage factors.

However a distinction should be made between the factors controlling the incident radiation and the dose of the skin or underlying tissue. The quality and quantity of the primary beam have been determined with accuracy for the past eight or ten years. On the other hand, the measurement of the surface, and particularly of the depth dose, is still in the experimental stage. Varying results have been reported for identical conditions, depending upon the method of measurements. While the figures shown today may be the ultimate—although no such claim is made—there is still the possibility of further improvement in the determination of the tissue dose. Its evaluation, therefore, should serve mainly as a guide to the most effective treatment plan. For the duplication of technique, the factors of the incident radiation are, in my opinion more important.

For instance, even if the tables of the latest book on dosimetry are used the values of back scattering are different from the factors shown today. Dr Quimby's table, as well as our own measurements, indicated a definite decrease in back-scattering with increased ray quality in the range of deep therapy. Yet in this recent publication no such change is shown. We found a somewhat less decrease than Dr Quimby reported but that may be explained by the fact that our measurements were made with pulsating potential. I understand that Dr Quimby used constant potential and therefore possibly with a radiation of greater homogeneity for the same half value layer.

It is stated that if only a thin part of the body the hand for instance, does the scattering less radiation will be scattered back. This of course,

is true, but only if the hand is held free in air without any support of underlying scattering material. Such a procedure is not usually applied.

This brings up the question of the exit dose. We have found it possible to reduce this factor by about 8 per cent by removing the underlying scattering mattress. The following factors were used 200 kv peak 1 mm. cu filter H.V.L. = 1.3 mm cu 50 cm FSD 10 X 15 cm field and 21 cm. thickness. This would suggest that where the exit dose is high, such as with 400 kv and with long focal distances, the patient could be treated advantageously on a bed with a canvas top instead of a wooden table and mattress. Also that the head and neck could be treated with less exit dose when the patient is sitting up.

In Table II was shown the tissue dose in terms of the incident radiation rather than in percentage of the surface dose. This method has the advantage that the tissue roentgens can be derived directly from the r/min. in air. However as the skin dose usually is the limiting factor such figures do not indicate directly the relative advantages of different techniques.

Finally may I ask whether Dr Quimby in general by kv refers to the peak or to the constant potential equivalent value of the tube voltage? Also whether the indicated filters include the filtration of the tube and tube holder? In the self-contained apparatus neither factor can be determined directly and there seems to be some discrepancy between the manufacturer's value and those obtained by absorption measurements.

In conclusion, I wish to emphasize the importance of Dr Quimby's paper which so clearly demonstrates the application of accurate dosage expression.

---

#### COURSE IN TRAUMATIC SURGERY

A spring course in traumatic surgery has been arranged by Dr John J Moorhead of New York City for the Tioga County Medical Society. The lectures at Waverly N. Y., will be held at 6:30 P.M. at the Jenkins Inn. At Owego N. Y. the lectures will be held at the Green Lantern Inn at the same hour. On March 22 at Waverly Dr Henry H. Ritter will be heard on Burns

and Hand Infections on March 29 at Owego Dr H. M. Bergamini on Care of Head Injuries on April 5 at Waverly Dr Willis W. Lasher on Joint Injuries on April 12 at Owego Dr Emmett A. Dooley on Fractures of the Forearm and Leg and on April 19 at Waverly Dr David Goldblatt on Fractures of the Humerus and Femur

# GALLBLADDER DISEASE

## Optimum Time for Operation

HOWARD L. PRINCE, M D , Rochester, New York

As I look back to my internship, thirty years ago, the change in surgery of gallbladder disease is most striking. At that time, cholecystectomy was an unusual operation. This was because the mortality was high as compared with cholecystostomy. Drainage of the gallbladder was the general procedure, it was applied to three classes of cases: first, the normal gallbladder which was considered pathologic when the bile was dark and concentrated. Biopsies from these bladders were practically negative. In the second class was the slightly diseased gallbladder, with or without stones, "strawberry" gallbladder was a favorite diagnosis in this class. Biopsies from these gallbladders showed a variable amount of round cell infiltration and fibrosis. In the third class were the badly diseased gallbladders, usually with hepatitis, frequently with stones in the ducts, many adhesions, and often with jaundice. This last class of cases did badly. They had fever, were dehydrated and, inasmuch as the preoperative and postoperative treatment at that time usually led to an increase in dehydration, many died. Cholecystectomy was considered the height of rashness in these cases. The fact that practically all of the patients belonging to the second class—where the microscope showed definite pathologic changes—had recurrences in from one to four years was overlooked because patients were followed up in only occasional places. Once a patient had been operated upon and developed a recurrence of symptoms—whether in the upper abdomen or in the lower abdomen—he was assured by his lay and medical friends that the symptoms were due to adhesions. The first class—those we

now know to have been normal gallbladders—usually did well and added to the successful statistics of those times.

One of the first patients I saw, on returning to the small town to take my father's practice, was a woman of eighty-four on whose farm I had played as a boy. For twenty years, father had known that she had gallbladder disease and her history went back probably fifty years. Surgery had been considered inadvisable because of the risks attendant on her age. At this time, her attacks of severe pain, nausea, vomiting, and slight jaundice were following each other so closely as to be almost continuous. She insisted upon the operation, regardless of risk, and on the next Sunday morning—because Sunday was the day for operating in the country—on the kitchen table in the farmhouse, we removed the gallbladder under local anesthesia with the help of a few whiffs of chloroform at one stage. This woman recovered and was perfectly well until she died of pneumonia three years later. In consultation, a few months ago, I saw a woman with a long history of irregular indigestion with occasional attacks of severe pain, nausea, and vomiting. About six months before, she had been examined by a recent graduate of a very modern medical school with two years' hospital training behind him. He had recognized the condition and naively said to me, "I told her she might have to have something done some time." The time had not only arrived but the boat had pulled out from the dock. She was intensely jaundiced, with a high fever, and in addition to chronic cholecystitis with stones, she had a carcinoma of the gallbladder with metastases in the glands and in the liver.

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938*

This shows that the state of the medical mind concerning gallbladder disease has not changed so much as would seem desirable. The well known ability of the gallbladder to withstand repeated attacks or more or less acute inflammation has clouded our perspective. Thirty years ago, surgery had not advanced to the point of successfully handling the condition, at present it is capable of meeting the situation successfully except in a few instances. Colp and Ginsberg, in *Annals of Surgery*, January, 1937, remark that a consideration of the causes of death in gallbladder disease immediately discloses that, from the practical standpoint, they fall in three major groups. The first group is the one to which we should give a maximum amount of attention, for here the disease itself is the ultimate cause of the fatal issue. This too large group exists because the opinion that cholecystitis and cholelithiasis are relatively benign and harmless conditions, subjecting the patient to minor digestive disturbances and an occasional severe attack of colic, readily controlled by morphine, is still too widely held. The knowledge that cholelithiasis and biliary infection are actually treacherous foci of chronic infection and obstruction should be more widely diffused. The knowledge that a prolonged period of persistent low grade infection and of partial obstruction induces local changes which weigh the odds heavily against successful surgery should be more generally realized and applied. Through all the mass of literature there is this one point of agreement—that there is a certain mortality comprising a rather high percentage of the total mortality which is due to delay in resorting to surgery. This delay is due to the persistence of the teachings of many surgeons of years ago, driven to their opinions by their results at that time. Surgery was struggling for its place in the upper abdomen. Langenbush had done the first cholecystectomy in 1882 which was characterized by the great Lawson Tait as an operation "intrinsically absurd." Very much later, some eminent surgeons scoffed about the activities of their confreres

among the "cobwebs in the attic." All this background has had great influence in forcing patients with gallbladder disease into the upper age groups, by which time they have developed most of the complications of gallbladder disease as well as the handicapping features of years. Years ago stones were the most important thing to the surgeon and the contents of every gallbladder were carefully counted, the count was given the patient and Mrs. Jones with four hundred gallstones was a much more important person than Mrs. Smith with two hundred gallstones.

Kehr, the Mayos, Moynihan, and many others began preaching the importance of infection in the gallbladder wall which demanded removal of the gallbladder rather than drainage. As the importance of the patient's general condition became appreciated and his disturbed physiology considered, cholecystectomy began to come into its own as the procedure of choice in the handling of gallbladder disease. Nevertheless, it has taken years more to bring the question as to the best time for operation to the fore. Earlier, the high mortality of surgery had made delay advisable. If the patient died unoperated, it was an act of God. Only the toughest and best able to survive ever arrived at the operating table. In the last fifteen years, more and more men have been thinking and writing about the desirability of early operation during the acute attacks of gallbladder disease. A study of the literature is fascinating and thought provoking—fascinating in the complexity of the findings. Anyone can find numerous statistics, researches, animal experiments, opinions, etc., to support whatever ideas he may have. To articles arriving at diametrically opposed conclusions will be attached long bibliographies surprisingly alike. It is thought provoking in that it makes one wonder how supposedly equally intelligent men can arrive at such opposite notions based on the same procedures in the experimental laboratory. My own fancy is that the true research mind is very much rarer than the ambitious research doing body. The result of this great urge

are the "duration of symptoms referable to the gallbladder before the onset of the acute attack and the age of the patient at the time of operation"

I wish that some influential organization would wage an active campaign to bring these well established facts to the attention of the medical profession. Many lives could thus be saved.

**Dr Thew Wright, Buffalo**—Dr Prince's views and mine on the subject of gallbladder disease and its management are so similar that in discussion of his paper I can do little more than lay additional emphasis upon some of the points he has called to our attention.

The unfortunate results of delay in bringing the patient to surgery should, I think, be stressed. To operate upon early and mild cases of gallbladder dysfunction is no more called for than in the case of peptic ulcer. Sane and carefully managed medical care has cured many a patient of both of these conditions. Such treatment is justified and I believe should be tried in all cases of mild or so-called chronic cholecystitis without stones and with only an occasional attack of colic. I believe that medical treatment as outlined by Mock, Brown, and Dolkart to which the doctor has referred will give far better results than the older, more accepted methods. But to persist in any form of medical treatment that does not give complete relief, and that continuously, is, I believe, unwise. Cases with proved stones I feel are surgical, and medical treatment is merely a makeshift that subjects the patient to the probability of serious trouble and offers no assurance of prolonged health.

The dangerous effect of chronic biliary infection and intermittent obstruction should, as Dr Prince has said, be more generally appreciated. I agree with him that there are some differences between a diseased gallbladder and a diseased appendix, but I have stated many times that as no one has ever died from simple appendicitis,

no one has ever died from simple cholecystitis. It is the complications due to procrastination and delay in bringing the patient to surgery that cause the mischief in both diseases. Cases of cholelithiasis and cholecystitis are allowed to go from year to year without surgery until complications arise that demand surgery in a patient whose resistance has been lowered and who presents a condition which demands the highest surgical skill and is often beyond human power successfully to combat. I agree wholeheartedly with the doctor that cases of acute cholecystitis should be promptly operated upon. For more than twenty-five years I have practiced and taught early operation in this condition. During a large part of this time it has seemed to me that eminent surgeons whose vision was clear on most subjects have been befogged in this through an ungrounded fear of the danger in operating on cases of acute cholecystitis and have advised an attitude of watchful waiting, permitting the more serious complications of gangrene and perforation of the gallbladder, suppurative cholangitis, pyelophlebitis, and damage to the liver itself to be superimposed upon a condition that early operation would have cured promptly. It is a source of gratification to me to see the steadily increasing number of leaders of surgical thought whose views coincide with those that I have held for many years. Time should, of course, be taken to overcome dehydration and to properly prepare the patient for operation, which procedure rarely necessitates more than a few hours' delay. Fortunately, in the vast majority of cases, progress to perforation or gangrene is slower in the gallbladder than in the appendix so that the necessity of immediate operation may not be quite so urgent.

As Dr Prince says, "No man can foretell the course of any given attack of gallbladder disease." When we educate the internist and the laity to look upon acute cholecystitis as we do upon appendicitis we will greatly lessen the mortality of this disease.

## SULFANILAMIDE MAY DAMAGE LIVER

Sulfanilamide may cause severe damage to the liver, Curtis F. Garvin, M.D., Cleveland, says in the *J.A.M.A.* for December 17. He cites five cases of inflammation of the liver that occurred from the therapeutic use of sulfanilamide.

Three of these cases showed an associated septic skin infection. One case ended fatally. The other patient, with a simultaneous occurrence of jaundice and abnormal accumulation of fluid in the abdominal cavity, recovered.

# PIGMENT CIRRHOSIS

## Rate of Occurrence and Difficulties in Diagnosis

JAMES R. LISA, M.D., and JAMES FINLAY HART, M.D., New York City

*From the First Medical Division, Service of Dr. John Carroll and Pathologic Laboratory, New York City Hospital, Welfare Island Department of Hospitals)*

THIS communication is the report of a study of the cases diagnosed as pigment cirrhosis at the New York City Hospital from January 1, 1920, to December 31, 1937. During that time there were 7 such cases recorded and there were 124,600 admissions to the hospital.

We use the term pigment cirrhosis in preference to either hemochromatosis or bronze diabetes because we feel that it is the most inclusive of the three designations. The deposit of pigment in the parenchymatous and other cells of the liver is generally accepted as the primary essential lesion and this, with the accompanying cirrhosis, is the one finding common to all.

Pigment cirrhosis is generally considered to be a rare disease. Sheldon,<sup>1</sup> after a very exhaustive search of the literature, concluded that 311 positive cases had been reported by 1935. He refused to accept 34 because they lacked reliable evidence for the diagnosis. He considered it a rarity but thought it was probably more common than is usually believed. Althausen and Kerr<sup>2</sup> quote 3 cases in 60,000 admissions to the University of California Hospital (0.005 per cent), and there were 3 in 106,000 admissions to The Johns Hopkins Hospital (0.003 per cent).<sup>3</sup> These are close to the percentage we found (0.0056 per cent). Butt and Wilder<sup>4</sup> stated that they had been able to recognize 30 cases during life at the Mayo Clinic in fifteen and one-half years and confirmed their diagnosis by skin biopsies.

Sheldon advised the use of postmortem figures in estimating the frequency of the disease. He quotes Stewart's figures which give 52 cases in 38,096 autopsies in the British hospitals with 13 cases in six

teen years in his own hospital in Leeds. At Boston, Rowen and Mallory<sup>5</sup> found 3 cases in 6,508 autopsies (0.05 per cent), Blanton and Healy<sup>6</sup> found 4 cases in 5,000 postmortems in twenty eight years at Bellevue Hospital (0.08 per cent), Mills<sup>7</sup> met with 16 cases in 3,700 autopsies during twenty six years (0.4 per cent), and Krall and Ginsburgh<sup>8</sup> found 3 cases in 1,435 autopsies (0.2 per cent). There were 3,621 postmortems at the New York City Hospital during the eighteen years considered in this paper. Only 4 of the 7 reported cases came to autopsy however, which gives us a percentage of 0.11.

The diagnosis of pigment cirrhosis is difficult to make. In the final analysis no case can be considered positive without a biopsy of the liver. Even here, error may enter. There must be a cirrhosis and there must be a pigment within the connective tissue. A differential diagnosis from biliary cirrhosis is essential. In this case there may be marked pigmentation in the parenchymal cells and the bile duct epithelium but there is little or none to be found in the connective tissue. Mallory<sup>9</sup> thinks that in the early stages even the pathologist may occasionally miss it.

A clinical diagnosis may be erroneous either by commission or by omission. The presence of diabetes and cirrhosis in the same patient is not commonly seen, but when it does occur it usually draws the attention of the clinician to pigment cirrhosis. Calling such a combination pigment cirrhosis without further proof is probably the commonest error of commission. Mistaking other forms of skin discoloration for the pigmentation of this condition explains the remaining errors in this group. The skin changes seen in Addison's disease, argyria, and some of

the darker forms of jaundice may closely simulate those of pigment cirrhosis. Then, as the disease may be present in the absence of any or all of the recognized triad of clinical signs, it is not difficult to see that errors of omission are frequent in the diagnosis.

A diagnosis of pigment cirrhosis based upon the clinical interpretation of a pigmented skin is of very little value. If the case is seen in the late stages there may be a bronze to a dirty gray pigmentation with a metallic sheen most prominent over the external genitalia, the exposed parts of the body, or in scars. When seen in the early stages, however, these characteristics are rarely evident. Here the skin usually cannot be differentiated from the pigmented skin commonly seen in the aged and those with chronic diseases.

A positive diagnosis from sections of excised skin or glands can be made under certain conditions. The presence of pigment granules localized around the sweat glands in the corium is generally accepted as typical of pigment cirrhosis. Less frequently, hemosiderin granules may be found in large quantities in the connective tissue cells and still less frequently, they may be seen in the endothelium of the capillaries and small vessels. In the lymph nodes the pigment is not so constant, its presence depending on the area they drain. When present there is nearly always a naked eye pigmentation, being a deep brown color which becomes bright yellow on section. In the mildly involved specimens the reticulo-endothelial cells of the sinusoids are most pigmented. Later the cortex becomes more pigmented than the medulla, and in the severe cases the gland is so thoroughly saturated that the anatomy is obscured.

A certain percentage of cases, however, may not show pigmentation. In 235 cases collected by Sheldon, 38, or 16.2 per cent, gave a negative history. Again, in 214 cases pigmentation of the skin was the first complaint in 55, or 25.7 per cent. He feels that 16 per cent of the cases will fail to show the positive skin test throughout their course and this may go as high as 75 per cent in early cases. Yet he be-

lieves that with better reporting it will be found that pigmentation of the skin will have the greatest chance of being the primary symptom.

### Case Reports

In 2 of our cases the diagnosis was proposed during life. In each one it was based entirely on a clinical estimate, as no positive skin biopsy or autopsy was obtained. Two left the hospital after a short stay and 1 died of pneumonia. In 1 case there was cirrhosis, diabetes, and pigmentation together. We could hardly call any of these undoubted cases of pigment cirrhosis, and therefore they are not used in the final statistics.

The three case histories follow.

J. J., male, 49 years old, was admitted April 26, 1923, as carcinoma of the liver and diabetes mellitus. His chief complaints were pain and swelling in the abdomen. Six months before admission he was in good health. Swelling of the abdomen began first, and at that time he was told by a physician that he had diabetes. The liver became tender and he noticed that the exposed part of his skin was getting darker. He claimed a good appetite with no vomiting or gas, yet he lost 27 pounds in a year. On examination he showed a "dusky red" tint to the skin and the pigment of the skin of the legs was "like that of the face." The abdomen showed marked ascites and the liver was stated to be two fingers below the margin of the ribs. The spleen was not felt. There was edema of the ankles. On the 7th of May, there was 4 per cent sugar in the urine. On the 11th the sugar was 1 per cent and on the 14th it was negative. On the 24th it was noted that the color of the skin was getting deeper and on the 27th it was a deep bronze color. He signed out of the hospital on the 27th of May. He denied venereal disease and his Wassermann was negative. All other laboratory tests were negative. A biopsy of the skin showed moderate hyperkeratinization with moderate atrophy of the epidermis and thickening of the dermis. There was no evidence of pigment.

Wm. J. M., male, 53 years old, was admitted August 4, 1933, as a case of chronic lead poisoning. His ward diagnosis was cirrhosis of the liver, chronic cardiovascular disease, and cerebrospinal lues. His chief complaints were distention of the abdomen and retention of the urine. He was a painter by trade and had a history of lead colic. He was told twelve years previously that his liver was below the costal margin. He

had been tapped three weeks earlier and two gallons of fluid were removed. He always had a dark complexion but it seemed to him to have increased in the last seven years. It came first on the hands and feet and then on the whole body. On examination he showed a generalized pigmentation of the skin. The liver was palpable four fingers below the ribs was hard and nodular but not tender. There was evidence of fluid in the abdomen and the legs showed edema. The urine contained two plus sugar and the blood sugar was 100 mg before breakfast. All other laboratory tests were negative.

On August 8th the attending physician said General pigmentation of an olive-brown type as distinguished from negro color. Face almost greenish gray and much darker than any other part of the body. No color to conjunctiva although the eyeballs are somewhat blue. Lips pigmented looking cyanotic. Hard palate and throat the same tint. No excess of color on knees or elbow. A skin biopsy was ordered. The patient asked for a release on August 13 1938.

T B, male 55 years old was admitted October 27 1936 as a diabetic with cirrhosis of the liver. He had known of his diabetes for three years. His abdomen first distended five months previously and he had been tapped six times before he entered. He claimed to have lost twenty to thirty pounds in the last two years. He denied venereal disease and excessive drinking. On physical examination there was fluid in the abdomen and the liver edge was felt four fingers below the ribs. It was reported as smooth. There was no statement of pigmentation in the clinical history. The Wassermann was negative. He was on a diabetic tray and 45 units of insulin a day. He died of pneumonia on January 10 1937. There was no autopsy performed.

The remaining 4 cases of the series were not recognized clinically as pigment cirrhosis. They were the 4 that came to autopsy and the diagnosis was made unexpectedly in each case upon the histologic examination of the liver. The histories of these cases follow.

Autopsy 1850. A K. a white male, 54 years old, was admitted to the hospital November 29 1922 as a paraplegic. He had been a dish washer of late but had worked as a farmer, paluter and carpenter. He had measles twice and mumps once in childhood. He had three attacks of erysipelas at 23, 29 and 51 years respectively. At 34 he had an attack of bronchopneumonia from which he recovered in three weeks. At 45 he had a bilateral herniorrhaphy. He lost about 25 pounds in the last two years.

He denied venereal disease but admitted being a heavy beer drinker.

On November 3rd he suffered a stroke of apoplexy which left him with a total right-sided paralysis and a marked speech defect. His course was uneventful until February 7 1923 when he had an epileptiform seizure. On July 5th he became comatose and death occurred that evening. The autopsy showed a slightly enlarged liver with cirrhosis. The histologic examination disclosed a Laennec's cirrhosis with a very dense deposit of golden brown pigment in the connective tissue. There was also a primary carcinoma of the liver recognized.

Autopsy 2888. D. C. male, 47 years old entered the hospital April 3 1928 as a cardiac in decompensation. The heart sounds were weak and distant but no murmurs were found. The liver was down three to four fingers below the costal margin extended across the abdomen and was hard. There were no ascites or edema. On April 6 1928, the day he died he was noted to have a slight icterus. All his laboratory reports were negative.

At autopsy the liver weighed 1700 grams, the capsule was smooth and shiny and the tissue beneath presented a smooth yellow brown appearance. It was firm in consistency and was normal in shape and size. On section it presented a moderate sclerosis and a chronic passive congestion. The heart showed an acute rheumatic myocarditis and pericarditis.

The histologic examination of the liver showed a marked increase in the periportal connective tissue and these areas were heavily infiltrated with hemosiderin bearing phagocytes. The areas also had a marked lymphocytic infiltration. The nodules showed extreme fatty changes. The spleen contained a large number of hemosiderin bearing cells most marked in the pulp and in the trabecular and central areas. There was a marked fibrosis and a moderate diminution in cellular elements. The capsule was markedly thickened.

There was no evidence in any other organ. At the time of the autopsy the skin was noted as being white. The anatomic cause of death was acute rheumatic carditis.

Autopsy 4685. L. K. a male 50 years old was admitted March 19 1930 and died March 20 1936. On admission he was considered to be a possible secondary carcinoma of the liver. His chief complaints were lumbar and sacral pain with weakness and loss of weight for a year. On examination he was found to be slightly jaundiced. The liver was below the umbilicus, regular and firm. There was no ascites. The spleen was very large. There is no record of



sugar in the urine but a fasting blood sugar was 121 mg. The Wassermann was negative. There was no statement of pigmentation of the skin. On autopsy a Laennec's cirrhosis was found. There was an enlarged spleen. Histologically the liver showed pigment cirrhosis. His icteric index was 15.

Autopsy 4892. C. K., a white male, 71, was admitted April 19, 1937, and died April 21, 1937. His chief complaints were difficulty in swallowing and breathing with marked loss of strength. The entrance diagnosis was possible carcinoma of the esophagus. He admitted being a heavy drinker and said the illness began one year ago. The only relevant finding was a mass in the abdomen. There was no clinical history of cirrhosis or diabetes or pigmentation. The autopsy showed a "white" skin, a small cirrhotic liver, and a small spleen. The histologic diagnosis was pigment cirrhosis.

## Discussion

From our findings in this series it would seem that pigment cirrhosis is a rare disease. Estimating its occurrence from the clinical standpoint we note that in 124,600 admissions to the hospital there were only 2 cases in which it was suspected during the patient's stay. Relevant to this is the fact that the New York City Hospital has a large chronic population with a full quota of diabetics and cirrhotics. Furthermore, these cases give ample opportunity for observation as they stay in the hospital comparatively long periods of time. On the other hand, if we estimate from the postmortem figures, we find our percentage about the average given in the literature. With 4 positive cases in 3,621 postmortems, we run 0.11 per cent which comes close to the idea of Polson<sup>10</sup> that 1 case is found in each 1,000 autopsies. From our study we have become impressed with the advisability of using postmortem statistics as the basis for establishing the occurrence.

The clinical diagnosis in our cases

proved very difficult to make. One diagnosis, made before the patient was removed from the medical service, became unacceptable after a negative skin biopsy. It showed that a noticeable pigmentation of the skin associated with diabetes and cirrhosis does not necessarily mean pigment cirrhosis. Another gave no evidence in the history that it was considered pigment cirrhosis. From all appearances, the diagnosis was written at the discharge and here the resident physician, apparently influenced by the presence of diabetes and cirrhosis in the same case, recorded pigment cirrhosis in the history.

Skin biopsies are noticeable by their absence. Evidently cases of pigmented skin suggesting a skin biopsy were very rare in the hospital during the sixteen years.

The diagnoses in the cases that came to autopsy were made on the histologic examination of the liver. With the exception of a spleen showing pigmentation, there was no evidence from the reports that any other organs were involved.

## Conclusions

1. Pigment cirrhosis is of rare occurrence.
2. A clinical diagnosis is difficult. Errors are due to both commission and omission.
3. The final diagnosis rests on the histologic changes of the liver.
4. A biopsy of the skin is of value only when positive findings are obtained.

## References

1. Sheldon, J. H. *Hemochromatosis*, Oxford University Press, 1935.
- 2, 3. Quoted by Sheldon.
4. Butt, H. R., and Wilder, R. M. *Hemochromatosis. A Report of Thirty Cases Diagnosed During Life. Proceedings of the Staff Meetings of the Mayo Clinic* 12: 40 (Oct. 6), 1937.
- 5, 6, 7, 8. Quoted by Sheldon.
9. Mallory, F. B. *Hemochromatosis and Chronic Poisoning with Copper*, *Arch. Int. Med.* 37: 336-362 (March), 1926.
10. Quoted by Sheldon.

Inmate of an insane asylum (to young doctor)  
 "You are the only doctor in this institution that we like."

Young doctor (flattered) "Why?"  
 Inmate "You seem just like one of us."  
*Rocky Mt. Med. J.*

# CLINICAL COMPARATIVE STUDY OF ANESTHETICS IN 1,370 CASES OF THORACIC SURGERY

Cyclopropane, Evipal, Avertin, Gas-Oxygen, Regional and Local

POL. N. CORYLLOS, M D, F.A.C.S.,<sup>†</sup> and SARA BASS, M D

(Director of Surgery and Chief Anesthetist, Sea View Hospital Staten Island New York)

**I**N THORACIC surgery anesthesia is a factor of greater importance in the outcome of the operation than in any other branch of surgery. Patients with chronic suppuration of the lung, such as pulmonary tuberculosis, bronchiectasis, abscesses, are cases of chronic anoxemia who cannot stand any further decrease of oxygen unsaturation. The latter may occur either during the operation or during the postoperative period. The most frequent cause of increased anoxemia is retention of exudate with or without bronchial obstruction, atelectatic and inflammatory consolidation of the lung or spread of the infection in the healthy lobes of the lung.

In cases without chronic suppuration, such as tumors of the lung or the mediastinum, or operation upon the esophagus the problems are different. Keeping respiration quiet—so as to allow sufficient collapse of the lung and room for the operation—inducing apnea when necessary, and at the same time insuring satisfactory oxygenation for a long period of time, are the main problems of anesthesia. It is obvious that although the anesthetic used is of less importance than the skill and experience of the anesthetist, we should not neglect the advantages offered by each of the special agents at our disposal. Therefore, perfect knowledge of their respective physiologic action, their special advantages and shortcomings is necessary in order to choose the right anesthetic for each individual case.

Our aim in this study is to report our experience with different anesthetics on 1,370 chest cases, most of which were

patients with pulmonary tuberculosis. For purposes of comparison, we have added 100 nonthoracic cases operated upon under cyclopropane anesthesia. These anesthetics were administered at Sea View Hospital from December, 1932, to March, 1938. Of the 1,370 chest cases, 300 had cyclopropane, 212, gas oxygen, 220, avertin 605, evipal and 27, regional and local.

## Cyclopropane

We became interested in cyclopropane as an anesthetic agent because of the high oxygen concentrations possible with this gas. During operation for thoracoplasty, the anoxic condition is aggravated as the patient lies on his sound side, thus limiting respiratory excursions. By relieving this condition of anoxemia during operation with an anesthetic gas that offers a high concentration of oxygen we hoped to reduce the morbidity and mortality resulting from postoperative pulmonary complications.

Cyclopropane,  $C_3H_6$ , an isomer of propylene, was investigated by von Freund<sup>1</sup> in 1882, but not until 1929 was its anesthetic possibility considered. At that time Henderson and Lucas<sup>2</sup> published their results on animal experimentation with the gas which was then in a somewhat impure form. Waters<sup>3</sup> of the University of Wisconsin received the gas in purified form and continued the experimentation on animals and was the first to use it clinically. We are indebted to him for his excellent work which paved the way for a widespread clinical application of this valuable addition to the armamentarium of the anesthetist.

<sup>†</sup> Died July 26 1938

TABLE 1—AVERAGE DURATION OF OPERATIONS PERFORMED UNDER CYCLOPROPANE ANESTHESIA

| TYPE OF OPERATION                | No  | AVERAGE<br>OPER TIME |
|----------------------------------|-----|----------------------|
| Thoracic—                        |     |                      |
| 1st stage thoracoplasty          | 148 | 1 hr 10 min          |
| 2nd stage thoracoplasty          | 45  | 50 min               |
| 3rd stage thoracoplasty          | 12  | 51 min               |
| 3rd stage and revision thor      | 8   | 1 hr 16 min          |
| 3rd stage and Schede             | 6   | 1 hr 12 min          |
| Revision of thoracoplasty        | 33  | 1 hr 30 min          |
| Schede                           | 27  | 1 hr 11 min          |
| Sinus revision                   | 15  | 1 hr 17 min          |
| Lobectomy                        | 4   | 1 hr 32 min          |
| Pneumonectomy                    | 1   | 2 hr 23 min          |
| Subtotal scapulectomy            | 1   | 49 min               |
| Orthopedic—                      |     |                      |
| Spine fusion                     | 34  | 1 hr 15 min          |
| Joint fusion                     | 12  | 50 min               |
| Miscellaneous                    | 34  | 30 min               |
| Nephrectomy                      | 6   | 1 hr 20 min          |
| Suprapubic cystotomy             | 1   | 50 min               |
| Excision of glands               | 5   | 20 min               |
| Appendectomy                     | 2   | 43 min               |
| Laparotomy                       | 2   | 55 min               |
| Incision and drainage chest wall | 1   | 11 min               |
| Biopsy cervix                    | 1   | 15 min               |
| Dilatation and curettage         | 1   | 11 min               |
| Vaginal hysterotomy              | 1   | 45 min               |

Several reports<sup>4,5,6</sup> have appeared in the literature concerning cyclopropane anesthesia in thoracic surgery. Eversole and Overholt<sup>4</sup> consider cyclopropane the most satisfactory anesthetic agent for operations on the chest. Rovenstine,<sup>6</sup> in a review of 160 thoracic operations with cyclopropane anesthesia, concludes with the statement that somewhat better surgical results may be obtained with this anesthesia than with other agents in common use.

In this report, we present the results obtained with 400 cases of cyclopropane anesthesia, 300 of which were given for thoracic surgery and 100 for mainly orthopedic surgery. We used the cyclopropane manufactured by E. R. Squibb & Sons for all of our cases.

In Table 1 we have enumerated the various types of operations for which we used this gas, and the average operative time for each. Our patients ranged in age from 2 to 65 years.

The patients undergoing thoracic surgery received  $\frac{1}{6}$  to  $\frac{1}{3}$  grain of pantopon and those for the nonthoracic operations, morphine sulfate, gr  $\frac{1}{12}$  to  $\frac{1}{4}$ , and atropine sulfate, gr  $\frac{1}{300}$  to  $\frac{1}{150}$ , one to one and one-half hour, preoperatively.

In all patients who expectorated more than one ounce of sputum in twenty-four

hours we used the endotracheal catheter so that we could aspirate any excessive secretions from the respiratory airways before, during, and after the operation, our procedure has been described in detail elsewhere.<sup>7</sup> For the same reason we used the catheter in cases with empyema and open bronchopleural fistula and in the cases of pneumonostomy, lobectomy, and pneumonectomy. In this way the anesthetist has direct control of the anesthesia and of the degree of the inflation of the lungs at all times.

In administering cyclopropane we used the closed carbon dioxide absorption technic. We prefer the slow induction with the soda-lime filter included in the circuit from the very beginning of anesthesia. The bag is filled with oxygen and the mask is then applied to the patient's face. The patient takes several breaths of oxygen while the mask is adjusted and tested for leaks. An airtight connection is desirable for a smooth course of anesthesia. Cyclopropane is introduced at the rate of 300 to 400 cc per minute and the oxygen flow is decreased to about 400 cc per minute. After three to five minutes, the lid reflex is lost and the cyclopropane flow is entirely shut off and anesthesia is maintained with a constant flow of oxygen approximating as closely as possible the metabolic needs of the patient. If anesthesia becomes too light, cyclopropane is added at intervals as needed. In two-thirds of our cases, we used the interrupted method as described above and in one-third the continuous flow method of administration as described by Burford.<sup>8</sup>

For the thoracic and orthopedic operations, anesthesia in most instances was carried on in the first plane and upper level of the second plane of anesthesia as no marked degree of muscular relaxation is required. It was necessary to supplement a small amount of ether, from a few drops to one ounce, in six of the 300 thoracic operations, whereas in the nonthoracic cases, 12 patients required ether, from a few drops to two ounces.

Induction is usually quite rapid and remarkably smooth. Such an induction

is a distinct advantage in thoracic surgery as it precludes the possibility of further damage to the involved lung parenchyma as well as the danger of spread of disease to the healthy portions of the lungs. However, some degree of excitement was encountered in 12 per cent of our cases. In only 1 case was it violent.

Cyclopropane is not a respiratory stimulant. During induction there is no increase in rate and minute volume respiration, as found with other inhalation agents. The quiet respiration which prevails throughout the anesthesia is of great aid to the surgeon operating on the open chest and lung.

*Apnea* occurred in 59 (19.7 per cent) of the thoracic cases. In 9 of these the period of apnea took place during induction, and in 27 it occurred when the periosteum of the rib was being removed by the periosteal elevator. We have long observed that respirations are irregular and labored during scraping of the periosteum no matter what anesthesia is used. This phenomenon occurs just as frequently under local anesthesia as under general anesthesia. The period of apnea that takes place at the time of removal of the periosteum is usually of short duration, lasting from a few seconds to a minute. Respirations recur spontaneously. However, if breathing is not resumed spontaneously in a few seconds, we maintain artificial respiration by rhythmic pressure of the breathing bag in order to prevent any extreme fatigue of the respiratory center.

It was necessary to resort to mouth to mouth insufflations in 6 of the instances of apnea in order to restore respiration. In 1 case, anesthesia was proceeding uneventfully when suddenly the patient stopped breathing. There was no change in pulse. This dramatic cessation of respiration supervened as a direct result of manipulation of the mediastinum during decollation of the lung in a first stage thoracoplasty. Immediate mouth to mouth insufflations were instituted and in about one minute the patient began to breathe and anesthesia was continued

with no other untoward complications. This is but one example of the importance of constant attention on the part of the anesthetist during anesthesia for thoracic surgery.

During anesthesia with cyclopropane for the nonthoracic operations, short periods of apnea were encountered in 7 per cent of the cases. In only 1 patient, an obese negro woman of 48, was it in any degree alarming. Apnea occurred a few minutes after anesthesia was begun. Rhythmic pressure on the breathing bag and artificial respiration by rhythmic pressure on the chest did not restore respiration. The mask was removed, rhythmic pressure on the chest was continued, and in one minute full consciousness returned. The operation which was for excision of a chest wall sinus, was carried out under local anesthesia.

Of interest is the marked rise in blood pressure that occurs during cyclopropane anesthesia. There was an average rise in systolic blood pressure of 27 mm. of mercury in our series of cases. In 42 per cent the systolic rise was 30 points or more with no change in pulse pressure. Two or three minutes after induction, the systolic pressure rises 20, 30, or more points, and is maintained at that level for approximately one-half hour and then if operative shock sets in, from bleeding or any other cause, the pressure starts to fall, sometimes quite rapidly. Replacement of fluids lost from the tissues usually prevents the rapid fall in blood pressure. It has been our custom in long, severe operations and in poor risk cases to start an infusion of 5 per cent dextrose immediately preoperatively and to continue it throughout the operation. If much bleeding takes place, a transfusion of citrated blood can be given at any time during the operation. This procedure has markedly lessened the shock in many of our poor risk patients.

In a few cases the blood pressure rose toward the end of the operation rather than during induction. In these instances, there was usually a marked drop

in blood pressure as soon as the mask was removed

Rowbotham,<sup>9</sup> in a series of 250 cases, found a rise in systolic pressure of 10 to 30 mm of mercury shortly after induction. He states that the higher the concentration of cyclopropane, the higher the elevation of the blood pressure, even when the anesthesia reaches almost to the stage of respiratory arrest. Bogan<sup>10</sup> reports a definite rise of 10 to 20 points above the preoperative systolic pressure, usually without change in pulse pressure, throughout the anesthesia in one-half of his series of 315 anesthetics with cyclopropane. In his experience the rise in blood pressure was accompanied by a slowing of pulse. We noticed this concomitant slowing of pulse in some, but not in all of our cases. Contrary to Rowbotham's findings, we had no lowering of systolic pressure when we decreased the concentration of cyclopropane.

Waters<sup>11</sup> reports an occasional rise in blood pressure after induction. He can find no clinical or experimental evidence to support the belief that cyclopropane raises blood pressure. He points out that the common causes of an elevated systolic pressure in anesthesia are carbon dioxide excess, oxygen want, or respiratory obstruction. He adds that careful consideration should be given to possible technical errors and particularly to the likelihood of inefficient carbon dioxide control.

We are of the belief that more bleeding and capillary ooze take place under cyclopropane anesthesia. This is in disagreement with the statements of Waters<sup>3</sup> and others, who believe that the bright red color of the blood simulates an actual increase in the amount of blood. Rowbotham,<sup>9</sup> however, finds a definite increase in capillary bleeding with cyclopropane anesthesia. Griffith,<sup>12</sup> likewise, is convinced that there is a greater tendency to capillary oozing and he believes it is due to a vasomotor effect on the smaller arteries and not to any chemical change in the blood affecting coagulability or viscosity.

Schmidt and Waters,<sup>13</sup> in reviewing 2,200 cases of cyclopropane anesthesia at the Wisconsin General Hospital, found a larger proportion of circulatory disturbances with this gas than with others. In a later report<sup>14</sup> from the same institution, embracing 5,889 cases of cyclopropane anesthesia, the same conclusion is arrived at. Likewise, they found that arrhythmia was diagnosed more than twice as often with cyclopropane than with ether, and that arrhythmias occur more frequently with deep than with light cyclopropane anesthesia. EKG studies by Kurtz *et al*,<sup>15</sup> made on 44 cases during anesthesia with cyclopropane, show cardiac involvement in all but 18 per cent of the cases. We did no EKG studies in our series during anesthesia but, by palpation of the temporal artery, noticed cardiac irregularity in 10 per cent of the cases. It is our habit to keep the finger on the temporal pulse throughout the anesthesia, thus we feel that we did not overlook any irregularity of the peripheral pulse. The arrhythmias we noticed lasted from a few seconds to about ten minutes. In only 1 patient did we note any postoperative arrhythmia. Throughout the anesthesia his pulse remained regular, but four hours following the cessation of anesthesia he developed skipped beats with a 3 to 4 rhythm. The irregularity lasted two hours, during which time an EKG revealed premature auriculoventricular extrasystoles. EKG's taken on this patient several days preoperatively and six days postoperatively were interpreted as normal.

Several observers consider arrhythmia as a danger signal of overdosage of cyclopropane. In our experience, we could not consider it as such because the arrhythmia in every instance occurred during the stage of induction or light anesthesia.

During the early period of anesthesia, slowing of the pulse is a fairly constant finding with cyclopropane anesthesia, as anesthesia progresses, the pulse rate always rises. Waters<sup>3</sup> considers a rate below 50 one of the danger signals of

overdosage of the anesthetic agent. We had no instance of marked slowing of the pulse rate. Conversely we are in agreement with Waters that a definite increase in rate is a danger sign. In our series of cases, the pulse rose from a preoperative average of 108 to an average high of 133. At the end of the operation, the average pulse rate was 128.

Cyclopropane is not an irritant. There fore an extremely high concentration can be inhaled without producing laryngospasm. We had no instance of laryngospasm in our series.

We noticed that cyclopropane does not depress the cough reflex. This is of distinct advantage in thoracic surgery as the bronchial secretions can be expelled, thus reducing the danger of postoperative bronchial obstruction. We made a note of every instance of cough, even when it occurred only once, and found that 22 per cent of the patients coughed during the operation. In none was cough troublesome enough to interfere either with the operation or the anesthesia. As would be expected, cough occurred less frequently (8 per cent) in the non-thoracic operations. In the former, manipulation of the pleura and lung, especially of the diseased apex, often produced cough.

In many cases there was a marked drop in blood pressure with coincident shock as soon as the mask was removed at the end of the operation. This sudden drop in blood pressure averaged 17 mm. of mercury. It was suggested by Dr. Neff<sup>14,17</sup> that this might be due to a sudden withdrawal of a humid and warm atmosphere, rich in oxygen, and that if we diluted the anesthetic mixture with air or nitrous oxide toward the end of the operation, we might avoid this alarming symptom. We adopted his suggestion, and in a series of 27 cases we diluted the anesthetic mixture with nitrous oxide during the last 20 to 30 minutes of anesthesia. The systolic pressure in these cases fell from 106 mm. of mercury to 95 mm. of mercury, a drop of 11 points. Air was used in the same diluting manner in 194 cases and the systolic pressure

TABLE 2—POSTOPERATIVE COMPLICATIONS IN THORACIC CYCLOPROPANE ANESTHESIA

|                                   | 300 THOR.  |          | 57 GEN.    |          |
|-----------------------------------|------------|----------|------------|----------|
|                                   | OPERATIONS | PER CENT | OPERATIONS | PER CENT |
| Nausea or emesis (once) O. D.     | 73         | 24.3     | 21         | 36.8     |
| Emesis (2 to several times) O. D. | 45         | 15.0     | 2          | 3.5      |
| Emesis (two days)                 | 5          | 1.7      | 1          | 1.7      |
| Emesis (three days)               | 1          | 0.3      | 0          | 0.0      |
| Emesis (total)                    | 124        | 41.3     | 24         | 42.1     |
| Restlessness                      | 54         | 18.0     | 21         | 36.8     |
| Headache                          | 3          | 1.0      | 1          | 1.7      |
| Acute parotitis (unilateral)      | 1          | 0.3      | 1          | 1.7      |
| Retention of urine                | 1          | 0.3      | 0          | 0.0      |
| Shock—mild                        | 45         | 15.0     | 22         | 38.6     |
| moderate                          | 43         | 14.3     | 1          | 1.7      |
| severe                            | 16         | 5.3      | 0          | 0.0      |
| Shock—total                       | 104        | 34.6     | 23         | 40.0     |

evipal series<sup>18</sup> (39 per cent) However, only 2 per cent of the total number of patients vomited more than one day

Upon casual observation, it may appear that operative shock occurred in rather a large percentage (35.3) of patients following thoracic surgery This may be readily understood when we consider that all our cases have far-advanced pulmonary tuberculosis and many are complicated by contralateral involvement, contralateral pneumothorax, and empyemata of tuberculous or mixed origin They are in poor physical condition, having spent long periods of time in bed, secondary anemia is a common finding, and not infrequently is amyloidosis a complicating factor In addition, they have undergone a long and severe operation

The most alarming and sometimes fatal complication we have experienced is the sudden onset of convulsions Generalized convulsions occurred in 5 of the 300 anesthetics given for thoracic surgery, none took place in the non-thoracic series Twitchings of the eyelids and facial muscles were seen in 2 other cases and carpopedal spasms in 1 other We deem it of interest to present a short résumé of these cases

Case 1 B S, age 42, white male Seventeen minutes following induction, marked generalized convulsions set in with cyanosis, weak and slow pulse, 40 per minute, and the blood pressure could not be recorded E & J resuscitator was applied Respiration was maintained but there were repeated convulsions until death ensued 50 minutes following induction Vessels of the head and neck were engorged Postmortem examination revealed cerebral edema, pulmonary caseous-pneumonic tuberculosis, dilatation of the right auricle and ventricle with myocardial fibrosis

Case 2 A C, age 25, white female One hour and seven minutes following induction for a first stage thoracoplasty, there was a sudden occurrence of generalized convulsions The mask was removed and oxygen was given through the endotracheal catheter There was a series of four convulsions lasting 30 seconds each with intervals of 15 seconds Three ampules of coramine were injected intramuscularly Respiration became very shallow, slow and laborious,

so mouth-to-mouth insufflations were instituted and an infusion of 5 per cent saline begun Convulsions continued at frequent intervals until patient died 45 minutes following the first convulsion Veins of the neck were markedly distended and clinical diagnosis was pulmonary embolism At postmortem, caseous pneumonic tuberculosis, tuberculous empyema, dilatation of all the heart chambers, patent foramen ovale, and tuberculous myocarditis were found Brain was not examined

Case 3 A McD, age 47, white female Second stage thoracoplasty was performed Anesthesia was uneventful and patient was conscious six minutes following removal of the mask Eight hours postoperatively patient went into coma and developed stiffness of the neck, twitching of eyelids and spasticity of the arms Legs were flaccid and all deep reflexes but the plantar were absent Three and a half hours later she had a generalized convulsion. She died one and a half hours later No autopsy was performed Clinical impression favored cerebral embolism as the cause

Case 4 S T, age 33, negro female Operation was for revision of thoracoplasty and packing of cavity with muscle flap Infusion of 5 per cent saline and transfusion were administered throughout the operation Anesthesia was uneventful until one hour and forty-two minutes following induction, when two convulsive seizures occurred each lasting a few seconds The mask was immediately removed, two cc of bloody mucus were aspirated through the endotracheal catheter, and carbon dioxide-oxygen was given by mask The operation was quickly completed No further convulsions occurred and she was conscious forty minutes postoperatively (one hour following the convulsions) Recovery was uneventful

Case 5 M V, age 12, negro female Second stage thoracoplasty Anesthesia was uneventful until forty-eight minutes following induction when a generalized convulsion took place The mask was removed and oxygen was administered Convulsion lasted one minute. Two minutes before the onset of the convulsion, 3 cc of metrazol had been injected intravenously for falling blood pressure Operation was completed and the patient was conscious 23 minutes following the onset of the convulsion. There were no after-effects It is interesting to note that a convulsion occurred two minutes after intravenous injection of metrazol In the light of recent experimentation with metrazol in the production of convulsions in cases of dementia praecox,<sup>19</sup> we are led to the conclusion that

TABLE 3—POSTOPERATIVE DEATHS IN 300 THORACIC OPERATIONS CYCLOPROPANE ANESTHESIA

| No. | KIND OF OPERATION          | TIME OF DEATH<br>AFTER OPERATION | CAUSE OF DEATH                     |   |
|-----|----------------------------|----------------------------------|------------------------------------|---|
|     |                            |                                  | CLINICAL DIAGNOSIS                 | AUTOPSY   |
| 1   | No operation               | 80 min. after<br>induction       | Cyclopropane poisoning (?)         | Cerebral edema  |
| 2   | Thoracopl. 1st stage       | 35 min p o                       | Cerebral embolism (?)              | Tbc myocarditis<br>Patent foramen ovale                 |
| 3   | Thoracopl. 1st stage       | 1 hour p o.                      | Oper shock                         | No autopsy  |
| 4   | Thoracopl. 1st stage       | 3 hours p o.                     | Oper shock                         | Far advanced pulm tbc. bilat<br>the empyema             |
| 5   | Thoracopl. 1st stage       | 12 hours p o.                    | Cerebral edema                     | Edema brain bilateral empyema                           |
| 6   | Thoracopl. 1st stage       | 24 hours p o.                    | Hyperpyrexia                       | Hematogenous tbc.                                       |
| 7   | Thoracopl. 1st stage       | 24 hours p o.                    | Anoxemia (?)                       | No autopsy  |
| 8   | Thoracopl. 1st stage       | 2 days p o.                      | Bronchopneumonia                   | Bronchopneumonia  |
| 9   | Thoracopl. 1st stage       | 3 days p o.                      | Atelectasis                        | Atelectasis   |
| 10  | Thoracopl. 1st stage       | 6 days p o.                      | Acute tbc. pneumonia               | Mixed infect. tbc. empyema<br>gelatinous tbc. pneumonia |
| 11  | Thoracopl. 1st stage       | 9 days p o.                      | Pulm. edema                        | No autopsy  |
| 12  | Thoracopl. 1st stage       | 13 days p o.                     | Spontaneous contralat. pnx         | Spontaneous pnx.; atelectasis                           |
| 13  | Thoracopl. 1st stage       | 15 days p o.                     | Spontaneous contralat. pnx.        | No autopsy  |
| 14  | Thoracopl. 1st stage       | 18 days p o.                     | Toxemia (mixed infect.<br>empyema) | No autopsy  |
| 15  | Thoracopl. 2nd stage       | 12 days p o.                     | Embolism (?)                       | No autopsy  |
| 16  | Thoracopl. 3rd stage       | 2 days p o.                      | Bronchopneumonia                   | Bronchopneumonia  |
| 17  | Thoracopl. 3rd and Schede  | 67 min. p o.                     | Acute bronchial obstruction        | Mixed infect. tbc. empyema                              |
| 18  | Revision and Schede        | 24 hours p o                     | Oper shock                         | No autopsy  |
| 19  | 3rd stage and revision     | 8 days p o.                      | Hemoptysis                         | No autopsy  |
| 20  | Revision and muscular flap | 6 days p o.                      | Tbc. bronchopneumonia              | Tbc. bronchopneumonia                                   |
| 21  | Revision and muscular flap | 30 days p o.                     | Bronchopneumonia                   | No autopsy  |
| 22  | Pneumonecctomy             | 17 1/2 hours p o.                | Shock                              | No autopsy  |

metrazol may have been the causative factor of the convulsion in this case

Case 6 A. W., age 33 negro male. Operation for lobectomy. Anesthesia was uneventful and patient was conscious 25 minutes post operatively. Four minutes later twitching of the right side of the mouth and right eyelid set in and lasted one hour and forty five minutes. Recovery was uneventful. It is interesting to note that following a previous operation for revision of thoracoplasty this patient developed a right facial paralysis on the first postoperative day. It cleared up entirely and it was thought that he had had a cerebral thrombus that had been absorbed.

Case 7 A. S. age 20 white male. First stage thoracoplasty. Eight minutes following the completion of an uneventful anesthesia we noticed twitching and a droop of the right side of the mouth with occasional shaking of the head from side to side. Eight minutes later he answered questions by nodding his head and four minutes following this he was fully conscious and able to talk. He complained of right-sided headache. Superficial neurologic examination revealed a suggestive left-ankle clonus. Thirty five minutes following the onset, all symptoms had cleared. Uneventful recovery.

Case 8. A. J., age 37 negro female. Eleven minutes following an induction during which the patient coughed spasmodically and respirations were jerky and shallow carpopedal convulsive spasms ensued. Oxygen was given and the spasms ceased in about one minute. There were no further untoward manifestations. We believe these muscular spasms were a manifestation of

an anoxic state resulting from the insufficient respiratory exchange during induction.

In our previous experiences with other anesthetic agents, such as nitrous oxide oxygen-ether, avertin nitrous oxide-oxygen, evipal and local and paravertebral, embracing over 1,600 administrations for thoracic surgery, we had only 1 patient that developed convulsions during anesthesia with nitrous oxide. This case proved fatal. With 300 cases of cyclopropane anesthesia for thoracic surgery, we had 8 cases of muscular twitchings or convulsions with 3 deaths. In view of our experience, we must conclude that cyclopropane is a contributory factor in the production of convulsions. For the pathogenesis of these convulsions different theories have been proposed, but none seems completely satisfactory.

**Mortality**—In Table 3 we have recorded all the deaths in the thoracic surgery series that occurred within thirty days of operation, no matter what the cause. In 1 case death occurred following induction before operation. Table 4 includes the deaths in our nonthoracic series of operations occurring within seven weeks of operation. We have included the postmortem findings when available. (See page 532 for Table 4.)



TABLE 4—POSTOPERATIVE DEATHS IN 100 NONTHORACIC OPERATIONS CYCLOPROPANE ANESTHESIA

| No | OPERATION                 | DEATH—TIME        | CAUSE                          | AUTOPSY FINDINGS  |
|----|---------------------------|-------------------|--------------------------------|---|
| 1  | Spine fusion              | 1 hour 45 min p o | Operative shock                | Cardiac dilatation and hypertrophy<br>paravertebral and psoas abscesses<br>Pott's dis , pulm tbc. |
| 2  | Spine fusion              | 6 hours p o       | Pulm embolus (?)               | No autopsy  |
| 3  | Amputation leg            | 24 hours p o      | Cerebral embolus               | No autopsy  |
| 4  | Nephrectomy               | 24 hours p o      | Operative shock                | No autopsy  |
| 5  | Spine fusion              | 5 days p o        | Acute pyelitis and<br>cystitis | Acute pyelitis and cystitis chr<br>hematogenous tbc , paravertebral<br>abscess                    |
| 6  | Amputation leg and finger | 5 weeks p o       | Tbc peritonitis                | No autopsy  |
| 7  | Spine fusion              | 7 weeks p o       | Tbc meningitis                 | No autopsy  |

TABLE 5—COMPARATIVE STUDIES OF VARIOUS ANESTHETIC AGENTS FOR THORACIC SURGERY

|                          | C <sub>2</sub> H <sub>6</sub>  | N <sub>2</sub> O-O <sub>2</sub> | AVERTIN     | EVIPAL                | LOCAL AND<br>PARAVERTEBRAL |
|--------------------------|--------------------------------|---------------------------------|-------------|-----------------------|----------------------------|
| No Cases                 | 300                            | 212                             | 226         | 605                   | 27                         |
| <i>During Anesthesia</i> |                                |                                 |             |                       |                            |
| Fall in B P in mm        | 17                             | 17                              | 20          | 40                    | 24                         |
| Rise in pulse per min    | 26                             | 46                              | 22          | 50                    | 50                         |
| Rise in resp per min     | 11                             | 23                              | 22          | 25                    | 14                         |
| Cyanosis                 | 15%                            | 60% (approx.)                   | 40%         | 12 2%                 | 22%                        |
| <i>Postoperative</i>     |                                |                                 |             |                       |                            |
| Return to consciousness  | Immed p o<br>to 2 hr 15<br>min | Immed p o<br>to 2 hrs           | 5 to 12 hrs | 5 min to 5 1/2<br>hrs |                            |
| Vomiting                 | 41 3%                          | 31 6%                           | 27 4%       | 29 7%                 | 40 7%                      |
| Restlessness             | 28 0%                          | 12 3%                           | 23 9%       | 29 7%                 | 40 7%                      |
| Psychosis                | 0                              | 0 9%                            | 0 4%        | 0 3%                  | 0                          |
| Shock—mild               | 15 0%                          | 10 8%                           | 7 1%        | 5 6%                  | 33 3%                      |
| moderate                 | 15 0%                          | 13 7%                           | 18 1%       | 6 3%                  | 11 1%                      |
| severe                   | 5 3%                           | 2 4%                            | 7 1%        | 2 0%                  | 0                          |
| Shock—total              | 35 3%                          | 26 9%                           | 32 3%       | 13 9%                 | 44 4%                      |
| Deaths                   | 7 3%                           | 7 5%                            | 8 4%        | 6 4%                  | 7 4%                       |

Other Anesthetics

Table 5 is a study of results with various anesthetic agents we have used for thoracic surgery

(1) Nitrous oxide necessitates high concentrations to produce relaxation, therefore not sufficient oxygen is available to the pulmonary ventilation Cyanosis is a prominent feature in a large percentage of cases Other disadvantages include struggling during induction, marked increase in the pulse rate, and deep, forceful respirations Postoperative restlessness was less marked with nitrous oxide and, with the exception of evipal, fewer patients were in shock at the end of the operation with this agent than with the others

(2) Avertin (tribromethanol) was used in 226 cases The average dose we used was 60 to 80 mg per kilogram With avertin as a basal anesthetic, a greater proportion of oxygen could be administered in the supplementary gas-oxygen mixture Another advantage is the smooth induction However, the dis-

advantages offset the advantages Shortly after induction, respiration becomes very shallow, and sometimes almost imperceptible, and cyanosis ensues in a large percentage of cases Postoperatively the patient is drowsy, respirations are shallow, cyanosis is present, and the cough reflex is depressed for hours Contralateral spread of the disease occurred postoperatively in 11 cases (49 per cent), 6 of these cleared, the other 5 terminated in death This complication occurred with avertin much more frequently than it did with any of the other anesthetic agents we used There were 2 deaths due to avertin shock Another case of shock that did not terminate fatally is worthy of mention

This patient, a 31-year-old white female, was given 80 mg per kilogram of avertin for a second stage thoracoplasty Five weeks previous to this, she had undergone a first stage thoracoplasty, avertin (80 mg per kilogram) and gas-oxygen had been administered with no untoward effects At the time of the second administra-

TABLE 6—POSTOPERATIVE DEATHS WITH VARIOUS ANESTHETIC AGENTS FOR THORACIC SURGERY

|                                | CO <sub>2</sub> H <sub>2</sub> |     | N <sub>2</sub> O-O <sub>2</sub> |     | AVERTIN |     | EVIPAL |     | LOCAL AND<br>PARAVERTEBRAL |     |
|--------------------------------|--------------------------------|-----|---------------------------------|-----|---------|-----|--------|-----|----------------------------|-----|
| Cases                          | 300                            |     | 212                             |     | 228     |     | 605    |     | 27                         |     |
| Total Deaths                   | 22                             |     | 16                              |     | 19      |     | 39     |     | 2                          |     |
| Mortality Per Cent             | 7.3                            |     | 7.5                             |     | 8.4     |     | 6.4    |     | 7.4                        |     |
| <i>Time of Death</i>           | Cases                          | %   | Cases                           | %   | Cases   | %   | Cases  | %   | Cases                      | %   |
| Operative day                  | 7                              | 2.3 | 4                               | 1.9 | 4       | 1.8 | 11     | 1.8 | 0                          | 0   |
| 1st day p. o.                  | 4                              | 1.3 | 2                               | 0.9 | 0       | 0   | 2      | 0.3 | 0                          | 0   |
| 2nd-3rd day p. o.              | 3                              | 1.0 | 1                               | 0.5 | 0       | 0   | 1      | 0.2 | 1                          | 3.7 |
| 4th-7th day p. o.              | 2                              | 0.7 | 4                               | 1.9 | 4       | 1.8 | 4      | 0.7 | 1                          | 3.7 |
| 2nd week                       | 3                              | 1.0 | 3                               | 1.4 | 4       | 1.8 | 8      | 1.3 | 0                          | 0   |
| 2nd-4th week                   | 3                              | 1.0 | 1                               | 0.5 | 7       | 3.1 | 13     | 2.1 | 0                          | 0   |
| <i>Cause of Death</i>          | Cases                          | %   | Cases                           | %   | Cases   | %   | Cases  | %   | Cases                      | %   |
| Pneumonia                      | 5                              | 1.7 | 2                               | 0.9 | 2       | 0.9 | 1      | 0.2 | 0                          | 0   |
| Acute bronchial<br>obstruction | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 1      | 0.2 | 0                          | 0   |
| Atelectasis                    | 1                              | 0.3 | 2                               | 1.4 | 1       | 0.4 | 2      | 0.3 | 0                          | 0   |
| Spontaneous pnx.               | 2                              | 0.7 | 0                               | 0   | 0       | 0   | 6      | 1.0 | 0                          | 0   |
| Spread of disease              | 0                              | 0   | 4                               | 1.9 | 5       | 2.2 | 3      | 0.5 | 0                          | 0   |
| Pulmonary edema                | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 0      | 0   | 0                          | 0   |
| Anoxemia                       | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 0      | 0   | 0                          | 0   |
| Hemoptysis                     | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 0      | 0   | 0                          | 0   |
| Shock                          | 4                              | 1.3 | 4                               | 1.9 | 2       | 0.9 | 5      | 0.8 | 0                          | 0   |
| Embolus                        | 2                              | 0.7 | 3                               | 1.4 | 2       | 0.9 | 3      | 0.5 | 0                          | 0   |
| Cerebral edema                 | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 0      | 0   | 0                          | 0   |
| Hyperpyrexia                   | 1                              | 0.3 | 0                               | 0   | 0       | 0   | 0      | 0   | 0                          | 0   |
| Toxemia                        | 1                              | 0.3 | 0                               | 0   | 4       | 1.8 | 8      | 1.3 | 2                          | 7.4 |
| Anesthesia                     | 1                              | 0.3 | 0                               | 0   | 2       | 0.9 | 0      | 0   | 0                          | 0   |
| Others                         | 0                              | 0   | 0                               | 0   | 1       | 0.4 | 10     | 1.7 | 0                          | 0   |

tion, there were no unusual manifestations until one to two minutes following induction with gas oxygen. Suddenly the patient lapsed into deep shock with very slow respirations accompanied by cyanosis. Stimulants were given, but 30 minutes later respirations ceased. Mouth-to-mouth insufflations and manual artificial respiration were instituted. Shortly thereafter the heart ceased to beat. Adrenalin (20 minims) was injected intracardially, immediately the heart began to beat strongly and soon respirations resumed. Further stimulants were given and consciousness returned four hours and fifteen minutes following the onset of shock. She was extremely restless and vomited several times that night. She was disoriented hysterical, and had a bilateral Babinski, numbness of the left thumb and a left lateral nystagmus. She lapsed into a cataleptic state. Spinal fluid was negative. These symptoms lasted for ten weeks, at the end of which time her mental state was normal and all abnormal neurologic signs had disappeared. We do not believe that these symptoms can be attributed to avertin.

(8) Evipal. The results we obtained with 300 cases of evipal anesthesia have appeared in two previous articles.<sup>12,30</sup> In Table 5 are recorded the results obtained with 605 administrations which were given from August, 1934, to September, 1936. It will be noted that there is an average drop in systolic blood pressure of 40 mm. of mercury and a marked

rise in pulse rate. There were 11 cases (1.8 per cent) that developed apnea shortly following the injection of evipal. Respiration in all of these cases returned to normal after resuscitative measures had been instituted. Postoperative shock occurred in a much smaller proportion of cases (13.9 per cent) than with any of the other anesthetic agents. In contradistinction to avertin, postoperative exudative spread occurred in only 4 cases (0.7 per cent), 3 of whom died later; in the other, the disease was reabsorbed.

(4) Local and paravertebral anesthesia was used in 27 cases. These were selected cases that we deemed poor risks for general anesthesia. Pain during operation was complained of in 10 cases, and in 1 of these it was necessary to supplement with gas-oxygen. Cyanosis during operation occurred in 6 cases and it was necessary to administer carbon dioxide oxygen to all of these. There was one case of novocaine shock. 23 minutes following the injection of 1 per cent novocaine (8 ounces) respiration was shallow, the blood pressure could not be recorded and the patient did not respond to external stimulation. The operation was postponed and stimulants given. In a short time, respirations became normal.

and the blood pressure rose to the pre-operative level. We believe that our series of cases is too small to draw any definite conclusions as to the advantages of local and paravertebral anesthesia for thoracic surgery. However, we have noted that postoperatively the patients are much brighter and that they seem to run a smoother postoperative course than those undergoing general anesthesia.

### General Results of All Anesthetics in Thoracic Cases

(1) *Mortality*—In Table 6 are recorded all deaths with the various anesthetic agents, the time and cause of death are included. It will be seen that the greatest mortality (8.4 per cent) followed avertin anesthesia and the least (6.4 per cent), evipal anesthesia, whereas the mortality percentages following cyclopropane, nitrous oxide, and local and paravertebral differed only very slightly.

(2) *Morbidity*—Schmidt and Waters,<sup>13</sup> in their review of 2,200 cases of cyclopropane anesthesia, found fewer respiratory complications with this gas than with others. In our series postoperative respiratory complications occurred in 3.7 per cent of the cyclopropane anesthetics, 5.2 per cent with nitrous oxide, 6.6 per cent with avertin, 2.3 per cent with evipal, and in none of the local and paravertebral cases.

### Conclusions

The results obtained with different anesthetics in thoracic surgery have been presented. Almost all the patients undergoing thoracic surgery had chronic pulmonary tuberculosis, of these 70 per cent had bilateral disease.

Our results with cyclopropane anesthesia are presented in detail. For comparison, we included 100 cases which had other than thoracic operations, but who were anesthetized with cyclopropane. Convulsions and muscular twitchings as a complication of cyclopropane anesthesia for thoracic surgery occurred in 8 patients. We had no convulsions

in the nonthoracic series. In our previous experience in chest surgery with other anesthetic agents, we had only 1 case of convulsions.

Of the 1,370 thoracic cases studied and analyzed, cyclopropane anesthesia was used in 300 cases, gas-oxygen in 212, avertin in 226, and evipal in 605. Local and paravertebral anesthesia was used in 27 selected cases. A detailed report of our results with these various agents is given, and a study of the morbidity and mortality rates is included.

We wish to express our appreciation and gratitude to Miss Mary Norton, Records Librarian, and her staff for their co-operation.

### References

- 1 von Freund, A. Über Trimethylene, *Monatsh f. Chemie*, 3: 625 (1882).
- 2 Lucas, G. H., and Henderson, V. E. A New Anesthetic Gas, Cyclopropane, *Canad. M. A. J.*, 21: 173 (1929), *Anesth. and Analg.*, 9: 1 (1930).
- 3 Waters, R. M., and Schmidt, E. R. Cyclopropane Anesthesia, *J. A. M. A.*, 103: 975 (1934).
- 4 Eversole, U. H., and Overholt, R. H. Anesthesia in Thoracic Surgery with Special Reference to Cyclopropane, *J. Thoracic Surg.*, 5: 610 (1936).
- 5 Eversole, U. H., Sise, L. F., and Woodbridge, P. D. The Clinical Use of Cyclopropane, *Surg. Gynec. & Obst.*, 64: 156 (1937).
- 6 Rovenstine, E. A. Cyclopropane Anesthesia in Thoracic Surgery, *Anesth. and Analg.*, 14: 270 (1935).
- 7 Coryllos, P. N. Etiology, Prevention and Treatment of Postoperative Hemorrhagic Complications in Surgical Treatment of Tuberculosis. Endotracheal Anesthesia Combined with Bronchial Suction. 84 Cases—152 Operations, *J. Thoracic Surg.*, 2: 384 (1933).
- 8 Burford, G. E. Continuous Flow Administration of Cyclopropane, *Anesth. and Analg.*, 15: 254 (1937).
- 9 Rowbotham, S. Cyclopropane Anesthesia, A Report Based on 250 Cases, *Lancet*, 2: 1110 (1935).
- 10 Bogan, J. B. A Clinical Evaluation of Cyclopropane After Its Use in 300 Surgical Anesthetics, *Anesth. and Analg.*, 15: 275 (1936).
- 11 Waters, R. M. Present Status of Cyclopropane, *Brit. M. J.*, 2: 1013 (1936).
- 12 Griffith, H. R. Cyclopropane Anesthesia, *Anesth. and Analg.*, 14: 253 (1935).
- 13 Schmidt, E. R., and Waters, R. M. Cyclopropane Anesthesia. Postoperative Morbidity in 2,200 Cases, *Anesth. and Analg.*, 14: 1 (1935).
- 14 Taylor, I. B., Bennett, J. H., and Waters, R. M. Anesthesia at the Wisconsin General Hospital. A Three Year Statistical Report. Part II. Operative and Postoperative, *Anesth. and Analg.*, 16: 262 (1937).
- 15 Kurtz, C. N., Bennett, J. H., and Shapiro, H. H. Electrocardiographic Studies during Surgical Anesthesia, *J. A. M. A.*, 106: 434 (1936).
- 16 Personal communication.
- 17 Neff, W. B., and Stiles, J. A. Some Experiences with Cyclopropane Anesthesia with Special Reference to the Diabetic Patient, *Canad. M. A. J.*, 35: 56 (1936).
- 18 Coryllos, P. N., and Bass, S. Evipal Anesthesia in Thoracic Surgery, *Ann. Surg.*, 104: 46 (1936).
- 19 Finkelman, I., Steinberg, L. D., and Liebert, E. The Treatment of Schizophrenia with Metrazol by the Production of Convulsions, *J. A. M. A.*, 110: 708 (1938).
- 20 Coryllos, P. N., and Bass, S. Evipal Anesthesia in Thoracoplasties, *Anesth. and Analg.*, 15: 66 (1936).

# PREVENTION OF MATERNAL DEATHS

CHARLES A. GORDON, M D , F.A C S , Brooklyn, New York

**M**ATERNAL welfare has to do with the well being of mothers, their social and economic condition, their willingness as well as their physical capacity to bear children—a full family life. No matter how perfect, preparation falls short if the end result of labor is stillbirth or neonatal death.

It has to do with the whole concept of preventive medicine, which, though not built around obstetrics, might very well be so far as mothers are concerned. Not a simple problem at all, their health truly depends upon environment, death often harks back to the rickets of infancy, the rheumatism of childhood, and the dysfunctions of youth. The skill and experience of the obstetrician is an important factor in the prevention of maternal death, yet women who are barely able to eke out a living, willing to exchange food and rest for the clothes and diversion they desire so much—women who rarely see the sun, overtired and overconscious of the stress of life, are not good subjects for parturition. The changes associated with the vastly accelerated speed of modern life have been gradual somewhat vague it is true, difficult of appraisal, but none the less real. More and more, simple failure of the forces of labor simulates disproportion, and women who should have normal labor delay so long that intervention becomes necessary. It is certain that childbirth has become more difficult.

Too long birth has been looked upon as a simple physiologic process which may become pathologic it is true, yet remain a safe undertaking. No function of the human body is ever subjected to a stress at all comparable with parturition, even in its simplest form, childbirth is never free of danger. Told that complications are preventable, women expect

none. This time-worn platitude should be summarily discarded, and women told that most of their hazards may be foreseen and controlled. That is quite different.

There has been considerable decline in maternal mortality in the last ten years. The trend is downward. That childbirth has actually become safer may deserve no emphasis by governmental agencies—certainly it has had none. For some reason, it has seemed better to say that in 1936 there were more than 14,000 deaths of women associated with pregnancy or childbirth than to point out that there were but 12,182 puerperal deaths in 1936, or 362 less than in 1935. Would it not be better to say that childbirth ranks third as a cause of death in women between the ages of 15 and 45? We are told that ten million people in the United States live more than thirty miles from an approved hospital but it is a fact that only about 1 per cent of births were unattended.

It should be clearly understood that the maternal mortality rate shows the number of maternal deaths in relation to live births, deaths from ectopic, abortion, and many general causes are included. Acute respiratory diseases may seriously affect these figures, for deaths from influenza and bronchopneumonia, with intercurrent abortion or labor or even pregnancy undelivered, are assigned to the maternal mortality column, even lobar pneumonia, unless its time relationship to the puerperal state is clearly stated on the certificate, meets the same fate. This method satisfies the statistician very well, but the obstetrician not at all. Contraception abortions increasing by tens of thousands, a higher proportion of primiparas, and the growing age of primiparity itself must be taken into account.

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 10 1938*

when comparisons are made with older figures. Improvement in mortality rates is more real than apparent.

International comparisons are particularly futile. Propagandists love to tell us that the United States has the highest rate, yet it has been shown that if international assignment of puerperal and nonpuerperal causes were uniform, our place would be fifth from the highest. No doubt it would be better still, if major factors like race, age, and parity, urbanization and relative incidence of acute respiratory infection had been given any consideration. Furthermore, all statistics depend upon the accuracy of the original record, and comparability can be questioned until we can more honestly evaluate the importance of the contributory causes of death. The arbitrary method of the "Manual of Joint Causes of Death" is not satisfactory. It is obviously unfair to infer that the quality of medical care is inferior in the United States. Such propaganda is demoralizing, tends to increase fear, and is of itself a cause of mortality.

Obstetricians have shown that the only effective method of analysis is by their own critical review of the actual certificates of death in co-operation with local health departments and the physicians concerned. This has been done so well in many communities that now we are repeatedly told that one-half to two-thirds of all maternal deaths are preventable.

A very large proportion of these deaths is inevitable. In our zeal some of us have gone too far in assessing preventability. Perhaps it would be better to discuss deaths as associated with controllable causes. Certainly it is impossible to define preventability exactly. Antepartum hemorrhage cannot be prevented nor will good management ensure safe delivery. Placenta praevia and abruptio are formidable complications which tax the skill of the most expert obstetrician. Even the less common presentations of the fetus increase maternal as well as fetal mortality. Eclampsia may occur in spite of excellent antepartum super-

vision. The diagnosis of moderate disproportion is not simple, and its management, whether by trial labor or test, difficult forceps or easier cesarean, involves considerable risk. The skill and judgment required for operative delivery are just as necessary when we allow women to remain long in labor with the hope of avoiding intervention. That our decisions are often reached under pressure of very trying circumstances unfortunately receives little attention in reports.

Certainly the majority of deaths from intentional abortion are beyond our control. The majority of abortions are induced, yet only the mortality of proved criminal abortion is assigned to homicide in our statistics. Taussig estimates that nearly 700,000 abortions occur every year in this country, that 60 per cent of them are induced in women who are unaware or careless of the risk. Abortion accounts for one-quarter of all our maternal deaths, nearly half of the deaths from septicemia, the greatest cause. These are the figures which need publicity, one good reason why the death rate from sepsis has not yielded. Their importance cannot be overemphasized, for thousands who recover pay their pelvic debt later in ectopic, placenta praevia, accreta, abruptio, sterility, and more abortions. Women contribute voluntarily to their own death rate. There is very little that we can do about it except to await public education which is sadly needed. In the meantime it is well to remember that even therapeutic abortion, an operation which is intended to save life, carries with it its own mortality. It would be best to consider all incomplete abortions potentially septic, advise hospital treatment in all cases with any untoward symptoms, and weigh well the risk of simple curettage.

Though puerperal infection is largely associated with operative interference, the problem is not as simple as it would appear. It is difficult to trace infection to its source. In the majority of instances it is introduced during examination or operation, but often delivery has

been spontaneous, and there has been no examination whatever. Recent investigations, however, have shown that autogenous infection is not an important cause. Casual streptococci in the throats of attendants are not very harmful, but carriers who have not fully recovered from acute respiratory infections, those with coughs, colds, and hoarseness, are very dangerous, whether attendants, relatives, or other visitors. Mild forms are common and the clinical course of the fever depends upon virulence of the organism and resistance of the patient. No perfect antiseptic is available, and treatment is largely symptomatic. Though often ineffective, preventive measures are highly desirable. Those new amendments to the Sanitary Code of the City of New York which make limitation of visitors and general use of masks compulsory in every lying in institution in the city, might well be adopted everywhere.

I would not have you think for a moment that I look upon the situation with satisfaction, or that we have reached that irreducible minimum which we feel sure exists. Not at all. The death rate would fall at once if all the factors could be controlled. It is not alarming, however, and obviously no spectacular solution of the problem is possible. Tax-paid medicine is certainly not the answer.

Education is the key to the problem, but of necessity it is time-consuming and difficult. In spite of great national effort the gospel of prenatal care has not fully reached the public. At any rate, a great many women pay no attention to it, even those who have had repeated dystocia. We agree on the advantages of good antepartum care, yet probably half of our maternal deaths occur in women who have had no examination or advice of any kind from a physician during pregnancy. There is good reason to believe, however, that we are at fault too. For nearly half of those who do register with a physician receive inadequate or poor care. There can be no excuse for this.

About half of our puerperal deaths are preceded by an operation like forceps

dilatation of the cervix, manual removal of the placenta, version, extraction, or cesarean. Often the physician has not seen the patient until an emergency has arisen, yet we are not without blame in this matter. Even the experienced general practitioner needs help in the management of eclampsia and the hemorrhages of pregnancy. Forceps and version are not for the novice, nor should cesarean be done by the inexperienced or the interested at-the-moment surgeon, no matter how skillful he may be, for the risk is so great that all indications for the operation should be subjected to the closest scrutiny. Even in the perfect case danger of death from peritonitis or anesthesia cannot be eliminated. The lower segment operation and radical cesarean carry no assurance of safety, even if there is no evidence of infection present. Mortality in all types of operation depends upon the same factors. The tremendous contribution made by cesarean section to our mortality figures is a cause of grave concern.

Less operations would appear to be the answer, yet women ask that labor be shortened and the pains lessened. And so would the most conservative among us, even though we had made up our minds to use better judgment. Obstetricians know that normal labor cannot be improved upon, yet a strong movement for more or less radical obstetrics has thoroughly involved the entire profession. Many who are extraordinarily well qualified to give women what they desire, have imparted their views to the multitude, but unfortunately not their skill. Whether we are conservative minded or not, whether we call this meddling midwifery, as some do, or not, makes very little difference at present. We must cope with the situation as we find it. It is likely that this modern idea has come to stay, and it is at least doubtful if many of us will be willing to force our patients to accept the hard way. Aside from analgesia, anesthesia itself is clearly a definite hazard. Clearly only those who have been well trained in these new methods should practice them.

Hospitals admit a steadily increasing number of women for delivery. In 1936, 71 per cent of all births in urban areas occurred in hospitals, while in rural areas only 14 per cent were institutional. In 1937 in New York City, 89 per cent of all women were delivered in the hospital. Our maternal mortality rate is 36 per cent higher in urban districts, yet it has been found impossible to calculate rates comparing delivery in the hospital with the home. The comfort and advantages of the hospital should be obvious, yet some have said that, since interference may be easier there, home delivery should be encouraged. At any rate this is no time to discuss that question, for hospitalization is steadily increasing. We are confronted with a fact, not a theory, and this very definite trend should be recognized by public-health authorities. It would certainly seem better to bring patients to a well-equipped center than to send public-health nurses out to them.

Every hospital should be a safe place for delivery. That is what every woman has a right to expect, the best interests of all concerned demand it. Large or small, the hospital has very positive obligations. It must control and closely supervise its obstetrics, for responsibility for the patients' welfare does not rest entirely with the physician. Nothing need be done to discourage that intimate relationship between patient and physician which is so essential, yet the patient must be protected and the physician supported whether they wish it or not. Facilities must be mobilized for advice and help, and consultation must be easily obtained when indicated. Not only should general practitioners be afforded opportunities to do good work, but they must be made to feel that they are an important part of the obstetrical service in the hospital.

Since obstetrics is an art, it will never be possible to teach more than obstetrical catechism in the medical school. No revision of the undergraduate curriculum will ever do more than train the student in the management of normal cases. There is neither time nor opportunity

to teach that which must be learned by practice—not precept. The young graduate has been largely left to his own resources, forced to grow in experience and judgment under the spur of necessity and expediency. When the intern years become a more definite part of the medical curriculum, some progress will be made.

Postgraduate education is the master key to happier results. The problem will be solved only when the education of everyone who practices obstetrics is made continuous. Not by refresher courses and lectures which, though desirable, are not very effective. Not by insisting that the general practitioner take postgraduate courses, for he will not, nor can he get what he needs. Not by belaboring him with statistics, or viewing with alarm preventability percentages, but by providing for him wide opportunities for easy continuous contact with the form and substance of good obstetrics in well-staffed hospitals. These institutions need have no fear for their own results, for properly controlled and supervised the average man is an excellent practitioner of midwifery.

If you think this Utopian, though I maintain it is not, we have, in the committee on analysis of maternal deaths, another perhaps more quickly available method of education. In many of our large cities committees of obstetricians have provided us with comparable statistics and conclusions, which they have arrived at after searching examination of the circumstances surrounding every maternal death in their own communities. The high educational value of their discussions, however, has been, for the most part, completely overlooked, for comparatively few have taken part in these committee deliberations. Many of us have become maternal-mortality conscious, and we have been made aware that a great many maternal deaths are preventable, yet individual interest on a large scale must be excited, and every physician made to feel that he himself can make an important contribution. This is essential. If inquiry, discussion, and

investigation are the basis of the modern synthesis of education, the committee on analysis will provide us with a nearly perfect mechanism

Review committees, consisting of physicians representing every hospital which admits women for delivery, ectopic, and abortion, should be set up everywhere by county medical societies. It is important that hospitals be invited to name their own representatives, the society appointing members to inquire into home delivery. Local health officers will be more than willing to provide transcripts of the certificates of death. With this basic material, all the pertinent facts and circumstances will be minutely explored by that member to whom it may be properly assigned for inquiry, and recorded in detail. When the committee meets, which will be as often as is necessary to suit local conditions, all deaths are examined, and all controllable factors developed by wide-open discussion. Hospitals or individuals should not be identified, their names being known only to the recorder or secretary of the committee, who reports the case for consideration. To arouse vigorous discussion it is best to assign responsibility, but percentages quickly arrived at need not find publication.

No criteria for preventability need be set up other than those which occur about the case material. Conscience will grow with consciousness of individual responsibility. For continued education, group discussion of personal experience is better than the scientific address and the symposium. If county organization is not always practicable, adjacent counties

may operate jointly. If well-qualified obstetricians are not available, consultants provided by a state medical society or some other agency may attend the meetings.

This method of approach to the problem has been highly developed in Brooklyn. Attendance is excellent, interest high and steadily growing. Forty-eight hospitals have co-operated perfectly in the analysis of maternal deaths. A card of admission is required since none but physicians may participate. Perfect anonymity has overcome all possible objections. Specialist and general practitioner have profited alike. Abortion, ectopic, cesarean, hemorrhage, toxemia—all the causes of death in the rubrics, have been repeatedly discussed as actual cases with their practical implications. Nor has the widespread knowledge that every maternal death in Brooklyn is closely scrutinized done any harm.

The medical profession is keenly interested in this problem and aware of its responsibility in the training of physicians. Education of the public, no less important, is a tremendous task which calls for more thoroughly organized effort than we are able to carry on ourselves. In the face of severe social and economic maladjustment, for which we certainly are not responsible thousands of women far and wide throughout the nation have been taken care of in childbirth by physicians with no thought whatever of their own economic problem. We are doing more than discuss the problem, for childbirth has become safer.

250 Jefferson Avenue

---

"The most dangerous period in an individual's life is during the first twenty-four hours after birth," said Dame Louise McIlroy in a recent speech. Aren't the last twenty-four a bit risky?  
—Punch.

Alcoholic intoxication is a predisposing cause of pneumonia and the death rate in pneumonia in alcoholic addicts is definitely higher than that of abstainers from alcohol. The *J.A.M.A.* says in an editorial.



# TREATMENT OF LOBAR PNEUMONIA WITH SULFAPYRIDINE

W L WHITTEMORE, M D , F A C P , C L ROYSTER, M D , and  
PAUL A RIEDEL, Ph D , New York City

(From the New York City Hospital, Welfare Island)

THROUGH the courtesy of the manufacturer in supplying a quantity of sulfapyridine, an opportunity was afforded us to study further the action of this drug at City Hospital, New York City. With this supply an attempt was made to evaluate the effects of sulfapyridine in lobar pneumonia. Observations were made concerning dosage, blood concentration of the drug, therapeutic response and untoward reactions when these occurred.

Our series of cases comprises 30 unselected patients, with pneumococcus lobar pneumonia, treated in the wards of City Hospital between January 1, and February 25, 1939. The age of the patients treated varied between 15 and 75 years, with an average age of 36 years. There were 20 males and 10 females. Twenty-three of the patients presented no evidence of complicating illness on admission. The complications found are listed: (1) 1 patient, seven months pregnant, who had a premature labor during the course of her Type III pneumonia, (2) 2 rheumatic cardiacs, in one of whom the process was inactive and in the other the process was questionably active, (3) 1 patient with aortic aneurism and luetic heart disease, (4) 2 patients with hypertensive and arteriosclerotic heart disease, one of whom had severe heart failure, (5) 1 with beginning empyema and bacteremia, Type I, admitted on the seventh day of illness.

The history of illness on admission varied from four hours to seven days. The average of all was three days. The types of pneumococcus encountered were

|          |             |
|----------|-------------|
| Type I   | 10 patients |
| Type II  | 1 patient   |
| Type III | 4 patients  |
| Type V   | 1 patient   |

|            |            |
|------------|------------|
| Type VII   | 2 patients |
| Type XII   | 1 patient  |
| Type XIV   | 1 patient  |
| Type XVI   | 1 patient  |
| Type XVIII | 2 patients |
| Type XXXII | 1 patient  |

In planning the administration of the drug we referred ourselves to the plan followed by Evans and Gaisford, who suggested the following dosage: "One tablet four-hourly for three to four days, followed by 1 tablet twice daily for a further two or three days, giving an average total of 12 grams. Later, it was decided to administer large doses during the seventy-two hours immediately following the admission, the routine being to give 2 grams statim, and 1 gram four-hourly thereafter, making an average total intake in the later cases of about 25 grams."\*

The dosage used in the treatment of our first 8 cases closely followed this routine. On admission, the patients were given sulfapyridine by mouth in doses of 1 gram every four hours for two days. This was then reduced to 1 gram every six hours for two days, and then 1 gram every eight hours for two days. Later in our series, 2 grams were given initially, followed by 1 gram every four hours for seven days.

Our study of these patients comprises in all, a determination of blood levels, free and total sulfapyridine, blood cultures, sputum typing, blood counts, icteric indices, x-ray examination of the chest, routine and microscopic examination of urine, Wassermann reaction and blood chemistry, and, in some cases, sedimentation rates. In estimating the blood levels of the drug, readings were taken at the end of twelve, twenty-four, forty-eight,

\* Evans and Gaisford (London Lancet, July 2 1938.)

ninety six, and one hundred and forty-four hours

The method used in the determination of the total and free sulfapyridine was that described by Marshall. In short, it consists of the deproteinization of the blood with *p*-toluene sulfonic acid. Marshall used saponin solution to hemolyze the blood but this was omitted and distilled water substituted. Two filtrations were found necessary to obtain a clear filtrate. For the determination of the free sulfapyridine, a measured amount of the filtrate was diazotized with sodium nitrite and a color developed with an alcoholic solution of dimethylnaphthyl amine. For the determination of the total sulfapyridine a measured amount of the filtrate was hydrolyzed by placing it in a boiling water bath. It was then cooled and diazotized and coupled in the same manner as in the determination of the free sulfapyridine. It was found that it was essential to keep all the reagents at icebox temperature to avoid decomposition.

The total dosage in our first group of 8 patients varied from 16 to 34 grams, and was continued to 50 grams in one instance. On this regime an average drop in temperature to 101 F from an average of 103½ F was observed in twelve to twenty four hours, and down to between 99 and 100 F at the end of forty-eight hours, with marked signs of clinical improvement, decreased toxicity and pulse rate. Subjective response was equally marked, many of the patients feeling so well that they wanted to be up and about. Cyanosis decreased as rapidly as did dyspnea, although the actual respiratory rate frequently remained rapid until signs of resolution occurred. This took place around the fourth or fifth day of treatment corresponding to the average time for this phenomenon in pneumonias treated with other methods. Methylene blue was not used in any of our cases. All of these patients, except 1 who developed further involvement on the fourth day with marked nervous system depression, bilateral papilloedema, and pronounced personality changes proceeded

to convalesce uneventfully, but continued to maintain temperatures of 100 F to 100.5 F up to the sixth or seventh day of treatment. By the seventh day all of this group had a normal temperature except the 1 patient noted above.

Hepatitis has been mentioned as a complication and so icteric indices were recorded before the drug was administered and repeated at frequent intervals. This was done in an endeavor to determine if liver damage was increased or produced by the drug. It was noted that in 7 of the 8 cases the icteric index decreased during treatment. Nausea and vomiting were present in only 2 of the patients and in none was any dose missed or lost because of this reaction. No other complications or side reactions were noted.

This incidence of nausea and vomiting seems to be much smaller than has been recorded by other observers, or noted by us subsequently when our dosage was increased. We found that the blood concentration, as has been confirmed by others, varied greatly, the total amount of free and combined sulfapyridine ranging from 0.7 to 3.5 mg per cent. In spite of this variation in concentration, there was a uniform clinical response to a constant dose of the drug, with the exception of the 1 patient noted who developed a spread of his disease.

In perusing the current literature we find Flippin, *et al*\* noted, "There was a great variability in the concentration of free sulfapyridine among individuals receiving the same dose schedule. The lowest estimate was 1 mg per 100 cc, and the highest was 18 mg." Although our highest reading reached only one third of this highest figure, the variation still was marked. Flippin, *et al* also noted, "Many patients with blood levels which apparently remained below 3 mg per 100 cc. enjoyed satisfactory recoveries from pneumonia. The blood levels in 3 of the patients who died were 12, 1.5, and 5 mg, respectively, per 100 cubic centimeters." It was not felt that in any of the patients of our first group an inadequate dose of the drug was given and our

\* J.A.M.A., Feb. 11 1939

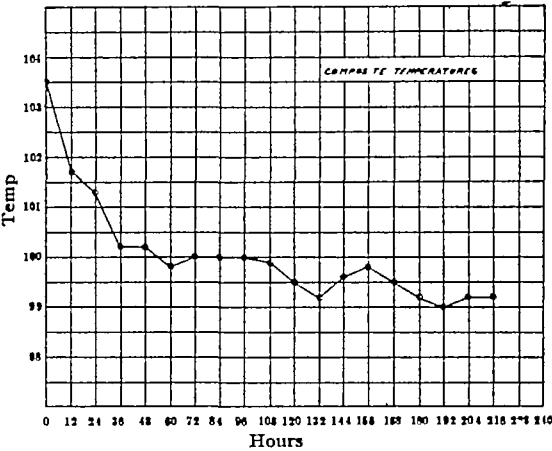


FIG 1 Composite Temperature Curve

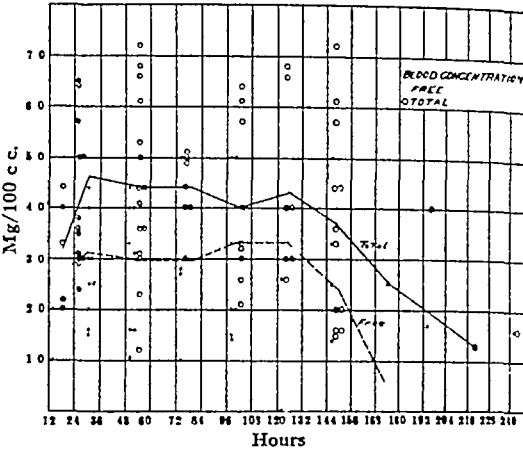


FIG 2 Blood Concentration Curve

findings are in agreement with Flippin's findings

Figure 1 indicates the typical response to sulfapyridine therapy and is a composite grouping of the temperatures of our 30 patients. The dose of the drug for 22 patients varied from 21 to 40 grams. The average was 30 grams. The total blood levels in this group varied from 3.5 to 7.2, and the free varied from 2.5 to 6.4 mg per 100 cc.

We noted a secondary rise in temperature in the first group of cases after the initial drop and, for that reason, the subsequent 22 were given larger doses of sulfapyridine in the hope of eliminating this low-grade secondary rise. These patients received an initial dose of 2 grams and then 1 gram every four hours for seven days.

The clinical results in this group closely approximated those in the 8 previously considered with the secondary rise still present, unaffected by the increased dosage. In considering the possible causes of this, it was noted that P. H.

Long, in 1937, stated that neoprontosil in a single dose of 100 cc of a 2.5 per cent solution administered subcutaneously, or in repeated small doses might produce fever. We offer no explanation at this time, nor have we found this important, though 1 patient did exhibit a sharp forty-eight-hour febrile reaction to 106 F with delirium. His abrupt second drop on discontinuing the drug was followed by normal temperature and normal clinical course. Vomiting was noted in this patient before administration of the drug. In contrast to the infrequency of nausea and vomiting in the lower dosage group, we encountered marked gastric disturbance in 14 of the 22 in the higher dosage group. In persisting with the treatment, save in 2 exceptions, we found that the nausea and vomiting ceased.

**Complications**—From this group of 30 patients, 1 patient aged 76 with hypertensive and arteriosclerotic heart disease died. She was a Type XII, right lower lobe pneumonia with a history of head injury followed by signs of concussion.

TABLE I—SECONDARY RISE—TEMPERATURE CURVE

| RETURNED TO NORMAL | REMAINED NORMAL    | TEMP TO 4TH DAY | TEMP TO 5TH DAY | TEMP TO 6TH DAY | TEMP TO 7TH DAY | TEMP TO 8TH DAY | BEYOND 8TH DAY |
|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|
| 24 hrs 3           | 2                  |                 |                 |                 | 1               |                 |                |
| 48 hrs 14          | 6                  | 1               | 2               | 1               | 1               | 1               | 2 (1 empyema)  |
| 72 hrs 6           | 3                  |                 | 1 death         |                 |                 |                 | 1 (extension)  |
| 96 hrs 3           | 1                  |                 |                 |                 | 1               |                 | 1 (extension)  |
| 5 days 1           | 1                  |                 |                 |                 |                 |                 |                |
| 7 days 1           | 1                  |                 |                 |                 |                 |                 |                |
| 8 days 1           | 1                  |                 |                 |                 |                 |                 |                |
|                    | 15                 | 1               | 3               | 1               | 3               | 2               | 4              |
| 14 days 1          | Hemolytic jaundice |                 |                 |                 |                 |                 |                |

10 days previous to admission X-ray diagnosis was confirmatory of her pneumonia. She appeared to be recovering from her pneumonia when she suddenly went into a coma and died.

Three patients (2 in the higher dosage group) when apparently recovering had an extension of their pneumonia necessitating a second course of treatment.

One patient (in the higher dosage group) who two years previously had had intensive arsenical therapy for syphilis, had the usual initial drop, then became jaundiced (icteric index, 40), developed a large liver and spleen with secondary anemia, and ran a febrile course for another 14 days before entering normal convalescence. He had received 9 grams of sulfapyridine before this was noted. One patient was admitted on the tenth day of illness with a Type I pneumonia of the entire right lung. A Type I bacteriemia was present and signs of fluid were present. He had the usual initial response to the drug but on the fourth day became febrile and this con-

tinued until drainage was instituted. A Type I pneumococcus was found in the chest. He had an uneventful recovery.

It was noted that 1 girl with a Type III pneumonia and a Grade I rheumatic heart had a prolonged period of resolution.

One boy with persistent vomiting from onset was given the usual dosage by rectum. His temperature drop occurred in forty-eight hours. It was noted on the fourth day that the drug level in his blood was 3.2 total and 0.8 free.

*Summary*—Thirty lobar pneumonia patients who had x-ray confirmation of diagnosis, sputum typing (6 of whom were negative), blood cultures, blood counts, total and free sulfapyridine blood level determinations, icteric indices, blood Wassermanns and chemistry, and routine urinalyses, were treated with sulfapyridine. Of the 30 patients, 20 recovered and 1 died. These patients were unselected save for the elimination of several patients admitted who were obviously on the point of recovery. There were no unusual blood-count changes.

#### NOTICE OF TEMPERATURE SYMPOSIUM

A symposium on 'Temperature and Its Measurement in Science and Industry' will be held under the auspices of the American Institute of Physics, probably next fall, the dates to be announced later. Consistent with the title the symposium will broadly cover many fields. Its primary purposes according to present plans being to (1) co-ordinate the treatment of the subject in the sciences and branches of engineering, (2) review principles and bring up to date the record of recent work, (3) accumulate contributions for a comprehensive text to be published as soon as possible after the symposium is held, (4) reveal the subject as an important branch of physics and (5) supply schools with the information required for the improvement of curricula. The Institute confidently expects that a stimulating, valuable, and unified program will be arranged, an aim which will require the help of many contributors.

A representative steering committee has been formed consisting of the Chairman, C. O. Fairchild, Director of Research, C. J. Tagliabue

Mfg. Co., Dr. E. F. DuBois, Medical Director, Russell Sage Institute of Pathology and Professor of Medicine, Cornell University Medical College, Dr. Gustav Egloff, Director of Research, Universal Oil Products Co., Dr. John Johnston, Director of Research, U. S. Steel Corporation, Dr. Walter G. Whitman, Head, Department of Chemical Engineering, Massachusetts Institute of Technology, and Dr. H. A. Barton, Director, American Institute of Physics.

Those who are interested in taking part in this symposium should communicate with the Institute at an early date, giving information regarding their field of work and the subject of the contribution they wish to make. Such contributions will be co-ordinated with the subjects of a group of invited papers and assignments and divisions made. Further information for contributors will be available shortly.

AMERICAN INSTITUTE OF PHYSICS  
175 Fifth Avenue  
New York, N. Y.



Syracuse Memorial Hospital

*(Descriptions of the above and following photographs may be found on page 548 )*

## The History of Syracuse

WITH the arrival of Champlain in the locality, began the history of what is now a prosperous and beautiful city. The hostility of the Indians and the devastation of the French and Indian War of 1744 did not dissuade the settlers from this promising region. The first pioneers to settle permanently were Ephraim Webster in 1786 and Major Danforth two years later.

With the discovery of salt springs, Syracuse's first industry, there was a great increase in the population. The production of salt was its major industry until 1862. Better means of transportation were needed with the growth of the entire area, and in 1817 the Erie Canal was begun—an important factor in the progress of the future city.

The village was incorporated in 1825. The construction of plank roads and stagecoach lines was the beginning of Syracuse as an important rail road center. The first railroad appeared in 1834. The rapidly growing town was merged with Salina and became incorporated as a city in 1844. The city of Syracuse received its name, not only due to the fact that the ancient city of Syracuse had salt springs but also because there was an adjacent town of Salina.

In 1807 Genesee College was brought from Lima, New York, to Syracuse and renamed Syracuse University in 1871. Its first enrollment was 41 students, today it is over 6,000.

The manufacture of salt as a major industry was replaced by many new products of which chemicals, electric washing machines, typewriters, electrical appliances, and air-conditioning appliances are but a few.

Today, Syracuse is a progressive and important city in the heart of upper New York State. The village of 4,000 has become a metropolis of over 200,000. Within the past few years many new improvements have been made to beautify the city. Its parks are numerous and conveniently located. The schools are available to all and the Syracuse Museum of Fine Arts is a center for the study and appreciation of art. It is hoped that the years will bring as many important changes and that the past will be mirrored, magnified many times in Syracuse's future.

## Medical Syracuse

THE COLLEGE OF MEDICINE of Syracuse University is the oldest of its colleges. It was founded in 1834 in Geneva, New York, as the Geneva Medical College, and came to Syracuse in 1872, where it became the College of Medicine of Syracuse University. It was located for many years in Orange Street, later McBride Street, where in 1898 a new building was erected. Then in 1937 a magnificent new plant was occupied which had been built in the Yates Castle grounds of the campus of Syracuse University at a cost of \$825,000, modern and complete in every particular. The College of Medicine has always been given highest rating by the Council on Medical Education and Hospitals of the American Medical Association. It is a member of the Association of American Medical Colleges. A matter of historical interest is the fact that it gave the first medical degree to a woman in the United States when it graduated Elizabeth Blackwell in 1847. The College of Medicine has a faculty membership of 215 and a student body of 177. (See page 546 for photograph of the building.)



College of Medicine, Syracuse University



Hospital of The Good Shepherd, Syracuse University



General Hospital of Syracuse



Crouse-Irving Hospital



### Medical Syracuse (Continued)

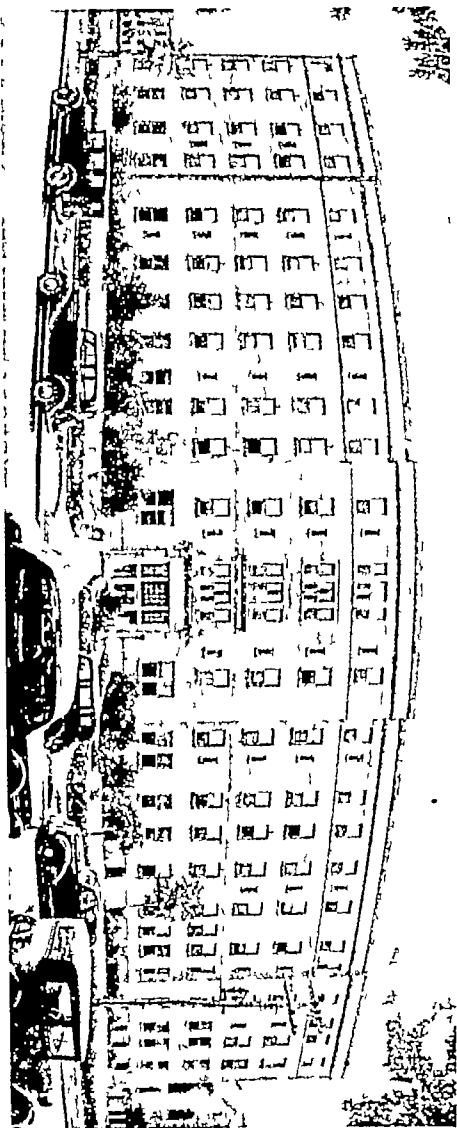
THE SYRACUSE MEMORIAL HOSPITAL was founded in 1887 as "The Syracuse Hospital for Women and Children." It was organized by leading women of the city and is still run by a Board of Trustees consisting entirely of women. Although the original plan was to limit the hospital to obstetric and pediatric service, it has been a general hospital throughout its history. In 1929 the present building was erected through popular subscription. It is one of the most complete and beautiful hospital structures in America. There is a large training school for nurses in the Nurses' Home adjoining the hospital. The bed capacity of the hospital is 250. The obstetric, pediatric, and gynecologic teaching of the College of Medicine is done in these wards.

THE GENERAL HOSPITAL OF SYRACUSE was organized in 1895 as the Syracuse Homeopathic Hospital, but many years ago became a general hospital of both schools. In 1903 it moved to its present location, where it has been entirely rebuilt and now has an excellent modern plant. It has a bed capacity of 110. There is also a School of Nursing.

THE CROUSE-IRVING HOSPITAL was founded in 1912 and has grown rapidly to its present bed capacity of 240. It is well equipped to do work in all fields of medicine. The School of Nursing has eighty pupils and there is a staff of fifty.

THE HOSPITAL OF THE GOOD SHEPHERD, Syracuse University, was organized in 1873 by Bishop F. D. Huntington and the Episcopal Deaconesses and it was used primarily for the care of the aged and indigent sick. In 1885 a Nurses' Training School was established with an enrollment of six students. The hospital has been several times enlarged and improved and now has a great and modern plant. In 1916 it was taken over by Syracuse University and it has since been the chief teaching unit of the College of Medicine. Its Training School is also affiliated with Syracuse University. It has a bed capacity of 280.

Other hospitals and medical institutions of Syracuse are as follows: Syracuse State School for Mental Defectives, 1,068 patients, Onondaga County Sanatorium (Tuberculosis), 255 beds, Onondaga General Hospital, 75 beds, Syracuse Psychopathic Hospital (State), 60 beds, City Hospital for Contagious Diseases, 84 beds, People's Hospital, 43 beds, St. Mary's Maternity Hospital and Infant Asylum, 29 beds.



St. Joseph's Hospital

St. Joseph's Hospital was established in 1870 by Sisters of the Third Order of St. Francis. This was the first hospital in Syracuse. In 1926 the hospital was enlarged to its present capacity of 231. It has a beautiful new plant with complete facilities of a general hospital. The medical and surgical wards are used for teaching purposes of the College of Medicine. There is a Nurses Training School with an enrollment of about sixty.

# Index of Annual Reports

|  | Page |
|--|------|
| Censors, Board of  | 598  |
| Constitution and Bylaws, Amendments to                               | 608  |
| Council  | 556  |
| American Medical Association Survey of Medical Care                  | 562  |
| Annual Meeting Arrangements  | 581  |
| Cancer Control   | 560  |
| Directory  | 581  |
| Flaherty, The late Dr Frederick H                                    | 582  |
| Health Program, New York State Temporary Commission to Formulate a   | 563  |
| Insurance Medical Expense Indemnity Insurance, Nonprofit             | 567  |
| Journal  | 579  |
| Legislation  | 578  |
| License Plates, "M D "   | 582  |
| Malpractice Group Plan Insurance                                     | 583  |
| Maternal Welfare   | 560  |
| Medical Care Surveys in New York State                               | 562  |
| American Medical Association   | 562  |
| New York State Temporary Commission                                  | 563  |
| Medical Expense Indemnity Insurance, Nonprofit                       | 567  |
| Medical Publicity  | 580  |
| Medical Relief   | 564  |
| New York State Board Nominations                                     | 582  |
| New York State Temporary Commission to Formulate a Health Program    | 563  |
| Pneumonia Control  | 560  |
| Postgraduate Medical Education                                       | 559  |
| Public Health Matters  | 560  |
| Cancer Control   | 560  |
| Pneumonia Control  | 560  |
| Publications and Medical Publicity                                   | 579  |
| Directory  | 581  |
| Journal  | 579  |
| Medical Publicity  | 580  |
| Suter Lectureship, The A Walter                                      | 581  |
| Technical Exhibits   | 581  |
| Workmen's Compensation   | 568  |
| District Branches  |      |
| First District   | 617  |
| Second District  | 618  |
| Third District   | 618  |
| Fourth District  | 619  |
| Fifth District   | 620  |
| Sixth District   | 621  |
| Seventh District   | 622  |
| Eighth District  | 623  |
| Journal Planning, Special Committee on                               | 607  |
| Legal Counsel  | 600  |
| President  | 551  |
| Principles of Professional Conduct, Special Committee on Revision of | 607  |
| Secretary  | 554  |
| Treasurer  | 586  |
| Trustees, Board of   | 590  |

# Annual Reports

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

1938-1939

---

### Report of the President

*To the House of Delegates  
Gentlemen*

A year ago as President elect in the address customary at such a time, I took up more particularly the necessity for economy. During the ensuing year that necessity has impressed all of us, and, I believe, our definite efforts to be economical, to conserve our resources and to preserve our savings will be appreciated.

While I did not make any definite recommendations at that time, I did state that it was my opinion that the new form of government which had been set up was capable of development into a good and consistent form of control. I am committed to the idea and I believe that a Council composed of men selected on the basis of fitness and availability, which is self-continuing and has general broad policies capable of normal, conservative growth, can direct the business of the Society in a satisfactory and consistent manner. It has the elasticity necessary for its own preservation. It has the firmness requisite for a definite policy. It has the continuity so valuable in making our work run smoothly. It can be modified when you in your wisdom direct it without destroying its usefulness.

This year has been a busy one. The committees have worked well, the harmonious action of the Council in important matters has been noteworthy, and we all have a better understanding of what we should do and how we should do it than we had a year ago.

It is with the highest respect that I commend my associates for their judgments based on experience and for the way in which they have served us at considerable sacrifice to themselves for the good of all. There is no occasion to single out any committee or individual for special commendation, rather would I speak now gratefully and appreciatively of each of them. Their work is described in the report of the Council. It need not be repeated here. It is of the new things that I may speak briefly because you are not acquainted with them as you will come to be as the future unfolds.

The launching of the *New York State Journal of Medicine* under our own control and management has been accomplished. The selection of a Publication Committee, the setting up of the management of our JOURNAL and the merging of this work with that of the Public Relations Bureau, and the management of the exhibits according to your instructions was no small matter. This work requires judgment and experience. We are fortunate that we had within the Society men who were by training and inclination suited to that work. They had the judgment and they had experience. The result is a JOURNAL that is a credit to the Society and will spread our fame. It will stand as long as we preserve our faith in ourselves and in the capability of expressing our own ideas.

The Public Relations Bureau has not lost its identity as a bureau, but the work is administered through the committee

as a whole and each member is familiar, or is familiarizing himself, with this branch of our activities. It is a union of similar interests to their mutual advantage. It will save expense.

I am sure you like the JOURNAL in its new dress and format. It will steadily grow and improve as it fully settles in its stride and has had time to grow to suit its clothes.

This is a momentous year in medicine. Many things have transpired and are to transpire. We have been harassed, besmirched, but it has made us strong. It has united medicine by welding its parts. Men of science and thoughtfulness generally look askance at what has been done to us, sympathize with us, support us. We have been stimulated and our ideas clarified by the injustices which we have suffered. Let us never be downhearted. Let us look with hope and trustfulness on the future which shows the streaks and highlights of the dawn of reason.

It will require many years to evaluate things and bring us to a clear understanding of what we have been trying to do and how honestly we have been doing it.

During this period of tribulation which has involved everybody to varying degrees, engineers have not chosen the engineering projects, economists have not directed the economic activities, and finances have not been controlled by watchdogs of the treasury. Those who believe in thrift and that one of the rewards of labor is the pride of accomplishment have not had much to say about it, politics has, of course, permeated all of the fantastic schemes in new and strange ways, and all scientific attainment has been more or less discredited by one group or another. The science and art of medicine have suffered very definitely along with all other scientific groups through the combined or mass attack by what is really a heterogeneous array of critics ranging from the fatuous to the atrocious.

We have now reached a phase in which Congress is really turning a little toward

economy, the former Director of the WPA expresses disapproval of acts which brought relief into politics and vote-getting, the Secretary of the Treasury doubts whether the processing tax really helps the farmer and that it is a very poor system of taxation anyway, non-medical science as a whole stands firmly with us in the attacks on medicine both as a science and as an art, the President of the United States in a recent message to Congress seems to hope that we are through with panaceas, sound-thinking welfare groups and public-health officials are disinclined to rush onward in the entanglement of private medicine with party politics, and the Governor of the State of New York advises that in at least his state, careful studies be made of insurance plans before hastily conceived laws are passed. Perhaps we may all be thinking more clearly as time goes on and will return to calm straight thinking which will enable us to reason peaceably with one another.

The Interdepartmental Committee reported to a handpicked but ungraded gathering, some of whom were earnest in their wishful thinking, but it included others who by the creation of confusion and the spread of misinformation would destroy democratic principles of government, and only pitifully few who had some conception of what medical care really is. The action of the House of Delegates of the American Medical Association, which met in special session to consider this report, found a controversy by no means insoluble if it were to be taken up in a truly co-operative spirit. Both groups declare that the sick, whether they are indigent, semi-indigent, or able to pay in whole or in part, should receive the best and ever better medical care. There may be disagreement as to the numbers of those who are able to get good medical care and no evidence to show why some of them do not get it when it is available, but that they should have it is sound medicine. There is agreement that tax money should be utilized for public-health projects and for new hospitals and other physical paraphernalia, but

only as the need be shown and only after what is already available has been utilized. In all probability neither group really wants great structures of brick and mortar in the wilderness. The adequate comfortable care of the sick in most instances is a relatively simple, individual problem.

There is agreement that unbudgetable, unpredictable expenses of illness can best be handled by people through some form of insurance. One group would have it compulsory and, of course, paid for by the people whether they want it or not, but the doctors strongly advise a blending of the old relationship so valuable to people when they are sick with the inclusion of insurance in some way or in some such manner that the patient may choose his doctor, his dentist, his nurse, his hospital, things which are very personal matters with most people. His individual rights *must* be respected.

There is much misunderstanding about what socialized medicine really is. Medicine has always been a social agency, one of the most powerful, and by all means the oldest. When Hippocrates wrote a social code for medicine among the Greeks, he, at the same time, wrote of the ancient physicians from which he derived so much knowledge only to transmit it as a "modern" commentator! Socialized medicine is older than history.

Group medicine is not new if by group medicine it be understood as those who created the term understand it, that is, the physicians themselves. Group medicine is joint enterprise of practitioners with various aptitudes practicing medicine as an individual might practice it and utilizing the special aptitudes when, as, and if needed. It is an ethical form of medical practice familiar to all of us. On the other hand, when groups of individuals are treated by contract by a doctor or a group of doctors, it is nothing more than the old lodge practice idea which has been with us but not growing or benefiting the people very much, with a rather poor grade of medicine.

So-called co-operative medicine can be

in the form of co-operative insurance, but when it is in the form of co-operation to hire doctors cheaply it makes for a cheapened imperfect application of medical principles which becomes expensive to the individuals who purchase it.

It would be fine indeed if the era of panaceas for everything could be ended. Medicine has suffered greatly from within as well as from without, over the centuries, because of panaceas. We must resist the temptation to grasp at something as a cure all, as a panacea, as something that will solve the difficulty without further thought or labor. We hear of the great accomplishments of medicine, but medicine itself is cognizant of the great gaps, the great opportunities which may come from filling them, the greater usefulness through a better understanding of things medical by the doctors themselves. It would not pause here with complacency. It has better and greater things to do.

Along with other trained minds, the men of medicine appreciate the value of study and careful planning and they hope to reap benefits through co-operation between various healing and social agencies. It can come only through scientific study and careful planning. It cannot be achieved by the antagonistic attitudes and "smart alec" methods of the loose thinking, quick acting, quack-coddling people who would plan our lives. This is the time of all times when *the scientific method of study should be applied to all our government activities, our social betterments, our ventures into the unknown*.

At this early writing for in order to have the report of the President printed it must be submitted on this 11th day of February, there is no assurance that our troubles are over, no assurance of peace, no promise, if promises are worth anything, that we can safely trust, but there are good omens. Our strength is in our own honesty of purpose. Medicine is a science which recognizes that it can be wrong. It is always self-critical. It has an insatiate avidity for the betterment of mankind. It has striven for it and sacrificed for it down through

the centuries Nothing can exhaust our expectations for better things, better manners of healing, better control of sickness in its many phases and in the prevention of disease It can never be good enough Nothing must deviate us in our quest for truth

Respectfully submitted,  
WILLIAM A GROAT, *President*  
March 15, 1939

Report of Secretary

To the House of Delegates

Gentlemen

The administrative year that has passed since your last meeting on May 9-10, 1938, has been an exceptionally busy one for the Society, and the work of the headquarters office has been increased correspondingly The membership has continued to grow Also there has been an unprecedented and rapid succession of events in this country bearing on the social and economic aspects of medicine In many of these matters emergent activity has been needed

*Membership*—There were elected 1,176 new members in 1938 As shown in the following table, the net change in the total roster as of December 31, 1938, was 648

|   |        |        |
|---|--------|--------|
| Membership—December 31, 1937  | 14,935 |        |
| New Members—1938  | 1,176  |        |
| Reinstated Members—1938   | 234    | 16,345 |
|   |        | <hr/>  |
| Deaths  | 180    |        |
| Resignations  | 86     | 266    |
|   |        | <hr/>  |
|   |        | 16,079 |
| Dropped for nonpayment of dues—December 31, 1938                        | 353    |        |
|   |        | <hr/>  |
|   |        | 15,726 |
| Elected and reinstated after October 1, 1938, and dues Credited to 1939 | 451    |        |
|   |        | <hr/>  |
|   |        | 16,177 |

Honor counties include Chenango, Clinton, Columbia, Cortland, Essex, Fulton, Genesee, Herkimer, Lewis, Orange, Putnam, Rockland, Schoharie, Schuyler, Steuben, Sullivan, Tioga, Tompkins, Washington, and Yates

The comparative totals for the five years 1934 to 1938 follow

|      |        |
|------|--------|
| 1934 | 13,172 |
| 1935 | 14,064 |
| 1936 | 14,662 |
| 1937 | 15,529 |
| 1938 | 16,177 |

As provided in the Bylaws, the roster of all physicians registered in the state has been kept up to date, adding new names, removing names of those who have died or moved from the state This work proceeds steadily through the year, with greatest pressure on the clerical force when the flow of returning directory cards is at its height soon after they have been mailed to the physicians

In previous years there has always gone with these cards notice of date of appearance of the next edition of the Directory In 1938 no cards were sent out because of the action of the House in postponing publication until the fall of 1939 This year, however, the information is greatly needed to bring the files up to date

Because there will come to the House on April 24, 1939, a recommendation for omitting publication altogether, there has gone this year to the physicians with the usual card the following different notice

Dear Doctor

Kindly fill out the enclosed card or make corrections that may be needed in the data which appeared under your name in the 1938 Medical Directory of New York, New Jersey and Connecticut

Please return at your earliest convenience. This information will be for our files and for use in another edition of the Directory should the Medical Society of the State of New York decide at its next Annual Meeting on April 24 1939 to continue publication

Very truly yours

MEDICAL SOCIETY OF THE STATE OF NEW YORK

In this manner there will be secured the usual information for the files, as required by the Bylaws, without committing the Society one way or another as to publication of a Directory. If the House decides to have a 1939 edition the publication date will not be delayed due to this timely assembly of information

*Co-ordination of Activities*—The recommendation for a health program made by the Federal Interdepartmental Committee to Coordinate Health and Welfare Activities in July, 1938, started a train of circumstances that has meant a very great deal of work. The action of the Special Session of the House of Delegates of the American Medical Association in September, 1938 (described in the Council Report), brought the Society's nineteen delegates to Chicago. Thereafter the Council took action at several different meetings

The Council's Committee on Public Relations and Economics in its conferences with the State Department of Social Welfare on Medical Relief has stressed the fact that arrangements now to be made for the care of the indigent should be, instead of temporary in nature, definitely permanent and, therefore, beyond any doubt, sound. The State Society's officers have accepted many invitations to address the public at

gatherings interested in "Socialized Medicine" and over the radio. Publicity in the press has been given to these talks, several of them have been printed in various magazines

The production of the JOURNAL from the headquarters office of the Society in all regards excepting printing and mailing has imposed an extra burden which has called for increase of clerical staff and even overtime work. It is obvious that more space will be needed and under instructions of the Council your General Manager has looked over a considerable number of buildings centrally located near the Grand Central Station. Certainly greater efficiency and saving of time could be accomplished by centralizing the different units of the office that are now separated. The Council will be in possession of data for a decision in the near future.

It has been a great satisfaction to take part in the work bearing on public health, malpractice insurance, preparations for the annual meeting, JOURNAL publication, medical publicity, the medical care survey, medical relief, medical expense, and indemnity insurance. It has taken many meetings, some in the office and others through the state, to bring these affairs into shape. Your Secretary wishes to commend the industry, efficiency, and co-operation of the committee members and the officers. He hopes sincerely that his efforts to help have been equally successful

It is a pleasure to register the thanks of the General Manager to the clerical staff for its unfailingly efficient and devoted work under the able supervision of Miss Dougherty. The tradition of many years of meeting extra calls cheerfully, smoothly, and effectually has been maintained

Respectfully submitted,

PETER IRVING, M D, Secretary



## Report of the Council

### Part I

#### *To the House of Delegates*

##### *Gentlemen*

Your Council has the honor to report on its administration of the activities of the Society during the period that has passed since your last meeting on May 9-10, 1938. This report will show how your established policies have been carried out and how new situations and matters have been met and studied and the actions taken thereon.

To achieve its purposes the Council has continued the custom of assigning regular duties to small committees which have supervised the work of the Legislative Bureau, the Workmen's Compensation Bureau, the Public Relations Bureau, publications, postgraduate medical education, matters relating to public health, malpractice insurance, and arrangements scientific and otherwise for the annual meeting. It has found it possible to concentrate the work so that the total membership of its working committees has been less than half that of the previous year.

For the committees retained the personnel has been much the same with, however, less need for advisory committees.

Regular meetings have been held on the second Thursday of each month except July and August. One telephonic meeting was found necessary.

The custom has been continued of inviting to the meetings the Second Vice-President, the Vice-Speaker, the Assistant Secretary, the Trustees, the Executive Officer, the Director of the Public Relations Bureau, the Director of the Workmen's Compensation Bureau, and the Legal Counsel. The matters studied and the actions taken are here submitted under subject titles.

In arriving at its decisions in some of these matters the Council found inspiration in the policies set by the House of Delegates of the American Medical As-

sociation at the Special Session held in Chicago on September 16-17, 1938. The Council had requested the nineteen-man delegation from this Society to caucus and elect a chairman who would report back to the Council the action of the Special Session. This was done and the following report went to the members of the Council under date of September 21, 1938, from Dr Winslow as chairman, and Dr Irving as secretary of the delegation.

The following delegates and alternate delegates who had been officially designated were all present:

|                   |                     |
|-------------------|---------------------|
| Floyd S Winslow   | Samuel J Kopetzky   |
| William D Johnson | Frederic E Sondern  |
| Thomas P Farmer   | James M Flynn       |
| Edward R Cunniffe | Thomas A McGoldrick |
| Grant C Madill    | George M Fisher     |
| Terry M Townsend  | Peter Irving        |
| George W Kosmak   |                     |

|                     |                          |
|---------------------|--------------------------|
| James R Reuling, Jr | for (Charles H Goodrich) |
| Robert F Barber     | (Frederick H Flaherty)   |
| Joseph S Lawrence   | (Thomas H Cunningham)    |

|                    |                      |
|--------------------|----------------------|
| B Wallace Hamilton | (Carl Boettiger)     |
| H Wolcott Ingham   | (James H Borrell)    |
| George A Newton    | (Adolph G DeSanctis) |

"Dr Lawrence and Dr Ingham, who were not on the list of elected alternates, were appointed under the bylaws by the president because the list of alternates was exhausted in the effort to fill these two places.

"The delegation held a caucus at the first recess after the House of Delegates came to order on September 16, with all members present, and in addition by invitation, Dr Arthur J Bedell, delegate from the Section on Ophthalmology of the American Medical Association.

"Dr Floyd S Winslow was elected chairman of the delegation, Dr Peter Irving, secretary.

"The House had previously heard addresses by the speaker, Dr H H Shoulders, the president, Dr Irvin Abell, the president-elect, Dr Rock Sleyster, and the president of the Board of Trustees, Dr Arthur W Booth, which clearly defined the purpose for which the Special Session was called and the unusual importance of the situation.

"Briefly as presented by Dr Booth certain specific proposals (to be embodied later in legislation for submission to Congress) had been formulated by the National Health Conference which met in Washington July 18 19 and 20 1938. The Board of Trustees considered it imperative that the House of Delegates establish a policy relative to these various proposals.

"The proposals fell into the following groups

- 1 Expansion of public health service.
- "2. Increase of hospital facilities
- '3 Medical care for the medically indigent
4. A general program for medical care.
- '5 A program for compulsory sickness

insurance covering the entire population of the United States.

"With the approval of the House a Reference Committee of twenty five was set up. This was divided into five separate sections each one of which considered in detail the lengthy proposals of the Washington Conference under the headings listed above. The five chairmen of these sections or subcommittees were

Walter E Vest of West Virginia  
Walter F Donaldson of Pennsylvania  
Fred W Rankin of Kentucky  
Frederic E. Sondern of New York  
Henry A. Luce of Michigan

These five chairmen constituted a guiding committee to receive reports from the five sections and formulate a final report to the House.

'Each of the five subcommittees read its report to the House for discussion and amendment before submission to the guiding committee. The final report of the guiding committee with some few amendments was unanimously adopted by the House.'

There followed in the delegation's report a digest of the action of the Special Session for which there are here substituted the verbatim minutes as printed showing the recommendations that were adopted by the Special Session \*

Since it is evident that the physicians of this nation, as represented by the members of this House of Delegates convened in special session favor definite and decisive action now your committee submits the following for your approval

1 Under Recommendation I on Expansion of Public Health Services (1) Your committee recommends the establishment of a federal de-

partment of health with a secretary who shall be a doctor of medicine and a member of the President's Cabinet. (2) The general principles outlined by the Technical Committee for the expansion of Public Health and Maternal and Child Health Services are approved and the American Medical Association definitely seeks to co-operate in developing efficient and economical ways and means of putting into effect this recommendation (3) Any expenditures made for the expansion of public health and maternal and child health services should not include the treatment of disease except so far as this cannot be successfully accomplished through the private practitioner

2 Under Recommendation II on Expansion of Hospital Facilities Your committee favors the expansion of general hospital facilities where need exists. The hospital situation would indicate that there is at present greater need for the use of existing hospital facilities than for additional hospitals.

Your committee heartily recommends the approval of the recommendation of the Technical Committee stressing the use of existing hospital facilities. The stability and efficiency of many existing church and voluntary hospitals could be assured by the payment to them of the costs of the necessary hospitalization of the medically indigent.

3 Under Recommendation III on Medical Care for the Medically Needy Your Committee advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community medical and allied professions and that such care should be organized by local governmental units and supported by tax funds

Since the indigent now constitute a large group in the population your committee recognizes that the necessity for state aid for medical care may arise in poorer communities and the federal government may need to provide funds when the state is unable to meet these emergencies

Reports of the Bureau of the Census of the U. S. Public Health Service and of life insurance companies show that great progress has been made in the United States in the reduction of morbidity and mortality among all classes of people. This reflects the good quality of medical care now provided. Your committee wishes to see continued and improved the methods and practices which have brought us to this present high plane

Your committee wishes to see established well co-ordinated programs in the various states in

\*Excerpt—Minutes of Special Session of A. M. A. J. A. M. A. 3, No. 13 1215 (Sept. 24) 1938.

the nation, for improvement of food, housing, and the other environmental conditions which have the greatest influence on the health of our citizens. Your committee wishes also to see established a definite and far reaching public health program for the education and information of all the people in order that they may take advantage of the present medical service available in this country.

In the face of the vanishing support of philanthropy, the medical profession as a whole will welcome the appropriation of funds to provide medical care for the medically needy, provided first, that the public welfare administrative procedures are simplified and co-ordinated, and, second, that the provision of medical services is arranged by responsible local public officials in co-operation with the local medical profession and its allied groups.

Your committee feels that in each state a system should be developed to meet the recommendation of the National Health Conference in conformity with its suggestion that "The role of the federal government should be principally that of giving financial and technical aid to the states in their development of sound programs through procedures largely of their own choice."

*4 Under Recommendation IV on a General Program of Medical Care* Your committee approves the principle of hospital service insurance which is being widely adopted throughout the country. It is susceptible of great expansion along sound lines, and your committee particularly recommends it as a community project. Experience in the operation of hospital service insurance or group hospitalization plans has demonstrated that these plans should confine themselves to provision of hospital facilities and should not include any type of medical care.

Your committee recognizes that health needs and means to supply such needs vary throughout the United States. Studies indicate that health needs are not identical in different localities but that they usually depend on local conditions and therefore are primarily local problems. Your committee therefore encourages county or district medical societies, with the approval of the state medical society of which each is a component part, to develop appropriate means to meet their local requirements.

In addition to insurance for hospitalization, your committee believes it is practicable to develop cash indemnity insurance plans to cover, in whole or in part, the costs of emergency or prolonged illness. Agencies set up

to provide such insurance should comply with state statutes and regulations to insure their soundness and financial responsibility and have the approval of the county and state medical societies under which they operate.

Your committee is not willing to foster any system of compulsory health insurance. Your committee is convinced that it is a complicated, bureaucratic system which has no place in a democratic state. It would undoubtedly set up a far-reaching tax system with great increase in the cost of government. That it would lend itself to political control and manipulation there is no doubt.

Your committee recognized the soundness of the principles of Workmen's Compensation laws and recommends the expansion of such legislation to provide for meeting the costs of illness sustained as a result of employment in industry.

Your committee repeats its conviction that voluntary indemnity insurance may assist many income groups to finance their sickness costs without subsidy. Further development of group hospitalization and establishment of insurance plans on the indemnity principle to cover the cost of illness will assist in solution of these problems.

*5 Under Recommendation V on Insurance against Loss of Wages during Sickness* In essence, the recommendation deals with compensation of loss of wages during sickness. Your committee unreservedly endorses this principle, as it has distinct influence toward recovery and tends to reduce permanent disability. It is, however, in the interest of good medical care that the attending physician be relieved of the duty of certification of illness and of recovery, which function should be performed by a qualified medical employee of the disbursing agency."

The Council had received in October, 1938, a suggestion from the Medical Society of the county of Westchester in the form of a resolution as follows:

"RESOLVED, that the County Society take such steps as may be required to cause a special meeting of the House of Delegates to be held at the earliest possible date for the sole purpose of formulating and expressing its attitude toward the medical economic problems which are now being brought to the attention of the public by the activities of legislative bodies and government agencies and by ex-

tensive publicity in newspapers and periodicals "

After full consideration the Council directed that all the county societies be officially advised of the following actions of the Council

"Placing the Society on record as in full accord with the recommendations adopted by the Special Session of the House of Delegates of the American Medical Association of September 16, 17, 1938 including that favoring cash indemnity insurance for medical expense.

'Approval of the principle of *non profit* cash indemnity medical insurance.

"Instructions to the Legislative Committee to support legislation for amendment of the insurance laws which would permit nonprofit cash indemnity medical insurance.

Advice from the Council that if in the rapidly moving field of medical economics new matters come up they will be as promptly handled as possible in a Special Session of the House

This information was sent to the secretaries of the county societies under date of November 26, 1938

In addition to its routine minor work the Council has given attention to the following major subjects

#### Postgraduate Medical Education

Through its Committee on Public Health and Education

Thomas P Farmer, M D , *Chairman*  
Syracuse

O W H Mitchell, M D      Syracuse

George Baehr, M D      New York

The Council has arranged courses in the following counties during the current year

|             |                  |
|-------------|------------------|
| Cattaraugus | Pediatrics       |
| Cayuga      | General Medicine |
| Chemung     | General Medicine |
| Clinton     | General Medicine |
| Columbia    | General Medicine |
| Franklin    | General Medicine |
| Genesee     | General Medicine |

|              |                   |
|--------------|-------------------|
| Jefferson*   | Heart Disease     |
| Madison      | General Medicine  |
| Monroe       | General Medicine  |
| Oneida       | Heart Disease     |
| Rockland     | General Medicine  |
| St Lawrence* | Heart Disease     |
| Schoharie*   | General Medicine  |
| Steuben      | General Medicine  |
| Sullivan     | General Medicine  |
| Tioga        | Traumatic Surgery |

There is a continually increasing interest manifested by county medical societies in these yearly postgraduate courses. During the current year, this has been evidenced by good attendance at the lectures and comments received from county societies regarding these talks, but most especially by the fact that county medical societies have placed their applications with the committee for these lectures much earlier than has been our experience in the past. There is no doubt that an attempt should be made to expand our program of postgraduate education, whereby resident courses of short duration would be set up in a limited number of centers throughout the state, these would be available to physicians who would be willing to leave their work for short periods of time and benefit by such instruction. Nevertheless, the plan now in practice of taking lecturers to the physicians offers a wider opportunity of instruction than any other method suggested. Regardless of any new plans the present postgraduate courses for county societies should be continued.

With the co-operation of the State Department of Health and the local county medical societies, one-day Pneumonia Institutes have been arranged to be given in Buffalo for the Erie County Medical Society on February 16, and in Troy, for the Rensselaer County Medical Society, on March 2. These institutes are open to members of adjacent county medical societies as well. Although the registration for these institutes has been limited to seventy-five, eighty four applications have been re-

\* To be given after the Annual Meeting of the House of Delegates of the State Society

ceived for the Buffalo Institute. As the programs of these institutes have been widely publicized, it is needless to repeat them here. In addition to furnishing more extended professional education regarding pneumonia, these institutes serve as a stimulus for further institutes on other subjects.

During the past year, the work of the Medical Society of the State of New York in postgraduate education has been described in the *Journal of the American Medical Association*, as has been the work in other state societies. The committees on postgraduate education in these other states have organized a group known as the Associated Postgraduate Committees, which meets at the time of the annual meeting of the American Medical Association. The chairman of your committee is vice-chairman of this group. The American Medical Association has invited the Medical Society of the State of New York to place an exhibit of its work on postgraduate education in the scientific exhibits at the next meeting of the American Medical Association.

### Public Health Matters

Through Dr. Farmer's Council Committee the Society has continued to give attention to various matters in the field of public health in the state. Conference and co-operation with the State Department of Health and other agencies, as well as with the county societies is an essential part of this activity.

*Pneumonia Control Program*—The Society has continued to take an active part in this program which it was responsible for launching in New York State in combination with the State Department of Health, the State Association of Laboratories, the Metropolitan Life Insurance Company, and the Commonwealth Fund.

It has worked out with the State Department of Health measures for further professional and lay education in pneumonia therapy.

In addition to the Pneumonia Institute arrangements described under the

title Postgraduate Medical Education, the Society has collaborated with the State Department of Health in lay education. A Speakers' Service Bulletin was issued by our Public Relations Bureau for county societies containing reference material which physicians can use in talks to lay audiences. Information comes from Dr. Alexander D. Langmuir, Medical Consultant, Bureau of Pneumonia Control of the State Department of Health, that this has been widely used by physicians in addressing meetings of the home bureaus through the state.

*Cancer Control*—The Society has been able to confer on a subject of importance with the Legislative Cancer Survey Commission. The commission, through its member, Dr. Floyd S. Winslow, asked the Society's attitude on a bill which it planned to introduce making cancer a reportable disease. The Council spent a large part of one meeting discussing the details and implications of this bill with Dr. Russell S. Ferguson and Dr. Morton L. Levin, who were at work for the commission. The Council approved the bill in principle and referred it to the Committee on Legislation for any further action that might be necessary during the legislative period.

### Maternal Welfare

The Special Committee on Maternal Welfare

Charles A. Gordon, M.D., *Chairman*,  
Brooklyn

James K. Quigley, M.D. Rochester

Ferdinand J. Schoeneck, M.D. Syracuse

set up by the House of Delegates, reports to the House, in the manner instructed, through the Council. The report follows.

The Council has directed the Publication Committee to co-operate with the Committee on Maternal Welfare in the publication of articles on prenatal, intra-partum, and postpartum care.

We are aware of committees on maternal welfare in thirty-six county societies. A few societies are interested in infant mortality, or include maternal mortality

in the general activities of a public health committee. The following counties have organized committees Albany, Broome, Bronx (Maternal Mortality), Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Erie (Obstetrical Council), Herkimer, Jefferson, Kings, Madison (Public Health), Monroe, Montgomery (Child Hygiene), Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Queens, Rensselaer (Child Welfare and Infant Mortality), Richmond, Rockland (Public Health and Public Relations), Saratoga, Schenectady, Schuyler, Steuben, Suffolk, Tompkins, Warren, Westchester, Wyoming (Public Health Nursing), and Yates

The immediate concern of committees on maternal welfare is prevention of maternal death. Fetal and neonatal mortality are closely related major problems, which have received less attention. Not a purely medical question because of important social and economic factors, the medical problem can be solved only by education of the public, the hospital, and the physician

In several cities of the state, Brooklyn, Buffalo, New York, Rochester, and Syracuse, and in Bronx and Queens Counties, committees have conducted searching inquiries into the circumstances of every puerperal death. They have shown that gross mortality figures are unsatisfactory and have helped to make their communities maternal mortality conscious, yet for the most part the high educational value of discussions of this valuable case material has been lost.

These committees on analysis provide a nearly perfect mechanism for the continuous education of everyone practicing obstetrics. Current group review of personal experience with actual cases is ideal postgraduate education when qualified obstetricians participate in the discussions. Infant mortality may be studied in the same way with the help of pediatricians. This program will excite individual interest on a large scale, and make every physician feel that he can make an important contribution himself

The Special Committee on Maternal Welfare recommends that

1 A Committee on Maternal Welfare be set up in every county medical society of the state. The function of these committees will be to survey local problems and resources, guide and participate in lay education, elevate local standards of practice, initiate and support proper hospital programs, and most important of all, review in detail every puerperal death which may have occurred in the county. The stillbirth and neonatal death problem should be studied currently, but whether by another committee or not will depend upon local conditions

Every hospital in the county which admits women for delivery, ectopic, and abortion should be invited by the president of the county society to name physicians, not necessarily members of the society, who shall act as a Committee on Analysis with the Committee on Maternal Welfare. True copies of certificates of death will be made available by local health officers. The members of the committee will explore the circumstances of each death, and keep a written record on proper forms

At intervals, every physician in the county, whether members of the county society or not, should be invited to attend the meetings at which these cases are to be reviewed. Hospitals or individuals should not be identified, their names being known only to the recorder or secretary of the committee who will report the cases in detail for consideration. To arouse vigorous discussion, it is best to discuss controllable factors. No criteria for preventability need be set up other than those which develop about the case material

2 Organization of this program when requested by a county society, shall be carried on by consultants appointed by the Committee on Maternal Welfare of the Medical Society of the State of New York, which shall be authorized to arrange with the Council for an honorarium for such consultants.

3 In the event that county society committees on maternal welfare find themselves in need of consultants to participate in the meetings of their committees on analysis, the Committee on Maternal Welfare of the Medical Society of the State of New York shall be authorized to arrange with the Council for an honorarium for this service

The Committee is pleased to report considerable decline in the maternal mortality rate for 1938

The medical problem appears in detail in an article entitled "Prevention of Maternal Deaths" in this issue of the *New York State Journal of Medicine* (see page 535)

## Part II

### Medical Care Surveys in New York State

Two surveys have been in progress, the one by the county societies and the state society which was initiated by the American Medical Association, and the other by the New York State Temporary Commission to Formulate a Health Program which was created by the legislature of the state

*The American Medical Association Survey*—The Council instructed a committee consisting of O W H Mitchell, M D, *Chairman*, Syracuse, Edward G Whipple, M D, Rochester, Walter W Mott, M D, White Plains, Leo F Schiff, M D, Plattsburg, Frederic C Conway, M D, Albany, Herbert H Bauckus, M D, Buffalo, to go into the various features of the study. On the advice of this committee it was considered best that this survey be started by a cross section of the sixty-two county societies, rather than to advise all to go at once to work on this rather heavy and not inexpensive task. At the Conference of County Society Secretaries some sixteen volunteered. In some of these the work is in progress and at this date, February 27, three are completed, others are on the point of completion. These counties were considered as representative of differing distribution of population, rural, and metropolitan areas, counties with many small towns, and counties where

the population is grouped in cities as well as small towns and rural

The State Society Study relates to distribution of physicians in the state, state hospitals financed and run by the state, etc. This study is practically complete including the metropolitan area in New York City. In this connection Dr Lawrence brought up to date for the decade 1928–1938 his former study of the distribution of physicians in New York State which covered the sixty years by decades from 1878. This was published in the February 1, 1939, issue of the *New York State Journal of Medicine*. The Council directed that full publicity be given this article and the press took wide notice of it in its editorials as well as news columns. The conclusions drawn from the study were

#### Deductions

1 Resident physicians and hospitals are distributed throughout the state in such fashion that no area is without medical service. Schuyler County has the lowest ratio of physician to population, 1 1,298, and the highest is in Dutchess County, 1 478. In the relation of general hospital beds to the population, the lowest is found in Livingston County, 1 1,044, and the highest ratio exists in Ontario County, 1 84. In evaluating these figures, it must be borne in mind that no county is an isolated unit, so that the services of physicians and hospitals of neighboring counties are always available.

2 Improved conditions for transportation and communications in the rural districts have increased the usefulness of the physician many times over what it was just ten years ago.

3 The same conditions have led the rural resident to seek the services of the city physician except for emergencies. In some instances this trend has induced rural physicians to move to the cities, at the same time retaining their rural practices.

4 Nevertheless, improved living conditions are attracting young men to locate in the rural areas.

5 There is no marked difference in the ages of the men practicing in the rural districts as compared with those in the urban districts.

6 Decreases in population must be marked and prolonged before there is any effect upon the number of physicians. Areas of growing population have larger proportions of young physicians.

7 Nursing service as a part of a public health program demands prompt study

*The Survey by the New York State Temporary Commission to Formulate a Health Program*—This commission, through its chairman, Senator Leon A. Fischel, invited the Medical Society of the State of New York, through its secretary, to attend a hearing which was held in New York City December 13 to 16, 1938. In the four days various organizations were scheduled to appear as follows

#### Morning Session

10 00 A.M.—1 00 P.M.

- Dec. 13 Official governmental agencies
- Dec. 14 Public Health organizations Insurance companies
- Dec. 15 Philanthropic groups
- Dec. 16 Representatives of industry funds and foundations

#### Afternoon Session

2.30 P.M.—5 00 P.M.

- Dec. 13 Medical and dental societies
- Dec. 14 Citizen groups
- Dec. 15 Labor organizations and fraternal orders
- Dec. 16 Allied professional organizations

The invitation asked that five questions prepared by the commission be answered in writing and amplified, if desired verbally. The Council directed that a conference be sought of representatives from the county societies of New York City and the surrounding area, from the State Society, and from the New York Academy of Medicine. This was done, and the following answers were worked out and submitted by Dr. Irving. There was also handed to the commission a copy of the 1938 Report of the Special Committee on Matters Pertaining to Medical Care as adopted with amendments by the House of Delegates.

*Question No. 1*—The relief population of this state is receiving some kind of medical care. Assuming that the problems of medical care will exist for relief recipients over a number of years, what suggestions would you offer for a long-range health program for this group of the population?

*Answer*—Assuming that the problems of medical care of the indigent that is those on

relief will exist over a number of years if not permanently the Medical Society of the State of New York offers the following suggestions for a long range program for these people

a That it be considered that the cost of medical care to the indigent is the obligation of their communities and should be met by the taxpayers in so far as voluntary philanthropy can and will shoulder some portion of the burden

b That it is the duty of local government when possible to certify indigency and administer the payments which will have to be made to physicians or hospitals

c. That the state may have to assist the poorer communities to such extent as may prove to be necessary

d That the proper government official of the locality should arrange with the organized medical profession to provide methods of securing medical service

e That while it is recognized that different methods may be needed in different localities, an underlying principle should be accepted on all sides namely the retention of the freedom of choice of physician by the indigent to the end that each may have his own chosen physician

f That with regard to the actual medical care of the indigent the organized medical profession the county societies with the assistance of the State Medical Society should accept the responsibility to see that this care shall be of the highest standard and be kept at that level

g That the Medical Society of the State of New York stands ready to accept its obligation along these lines

*Question No. 2*—Perhaps the most important problem of medical care presented is that concerning the low income group of population of this state. There has been considerable discussion as to whether or not the application of the principles of insurance to the various aspects of this problem might lead to a solution. At the present time there are various voluntary insurance plans in effect dealing with hospital service insurance. These meet with the approval of the state and national medical and hospital associations. In addition the House of Delegates of the American Medical Association at its special session on September 16 1938 adopted the following statement. In addition to insurance for hospitalization your committee believes it is practicable to develop cash indemnity insurance plans to cover in whole or in part the costs of emergency or prolonged



illness" (*A M A Journal*) What is your opinion as to the efficacy of some form of sickness insurance as a remedy for this situation?

*Answer*—For the low income group, the following mechanisms are suggested

- a Hospitalization insurance
- b Nonprofit cash indemnity insurance for medical expense.

The Medical Society of the State of New York believes that such insurance coverage should be on a voluntary and not a compulsory basis

With regard to that portion of the low income group who are unable to purchase such insurance, the Society believes that these individuals should be classed as medically indigent, and therefore come under the answer to the first question

*Question No 3*—Public health activities, including public health nursing, communicable disease control, and school examinations, have been a part of the functions of state and local government for many years Do you feel that present public medical and health facilities meet the need for care of persons unable to provide such care for themselves? If not, specify what needs are not being met and what methods should be used to extend these programs or facilities and under what official auspices

*Answer*—The Medical Society of the State of New York considers the present official and professional facilities, in so far as they relate to the educational, sanitary, and administrative services for health as these services are developing, meet the needs of the public

*Question No 4*—The Interdepartmental Committee presented an extensive public health and medical care program at the National Health Conference held last July in Washington This program includes both preventive and curative health measures From your experience and knowledge of the problems of health, would you agree with the statement "that the present efforts of the medical profession in providing medical care should be supplemented by state and local governments?"

*Answer*—The proposals of the so-called "National Health Program" issued by the Federal Government officers and their technical committee appear to us to be based on estimates that do not apply to conditions in New York State, for this reason, discussion of their suggestions with reference to the population would serve no practical or useful purpose at present

The attitude of the Medical Society of the State of New York on the question of govern-

ment participation is covered in its answers to the previous three questions

*Question No 5*—What functions do you think private health organizations should perform in public health programs of the state?

*Answer*—The private health agencies should function primarily for the information of the public on how to utilize available medical facilities, and secondarily to supplement these facilities by furnishing or supplementing bedside nursing when not otherwise available, and by furthering the solution of specific problems, such as tuberculosis and cancer They should educate the people to understand the scientific truths back of proved health promotion procedures

The final report of the studies of this Commission is at this date (February 27, 1939) still to be presented to the Legislature

## Medical Relief

Through its Committee on Public Relations and Economics

Augustus J Hambrook, M D , *Chair-*  
man Troy  
James M Flynn, M D Rochester  
Louis H Bauer, M D Hempstead

with Dr Lawrence and Dr Irving sitting ex-officio, the Council has conferred at length with representatives of the State Department of Social Welfare looking toward establishment of suitable rules and regulations governing this work

Probably one of the most important problems presented to the members of the committee this year was that of medical relief The present setup has been far from satisfactory and there has been too much centralization of authority, and, as a result, too many arbitrary decisions A central authority cannot have the necessary information to decide a local problem The medical profession has too little to say about its own activities under the Social Welfare Act Administrative rules have necessarily been too inelastic and also there has been an accompanying amount of annoying red tape unavoidable under such a system

The committee has had in mind giving the local welfare districts greater author-

ity in managing their own affairs. It has tried to set up a system more or less comparable to that which has proved so satisfactory in the administration of Workmen's Compensation. The present revised regulations recommend the establishment of Professional Advisory Committees in local welfare districts. This has been done with great success in Nassau County but probably the reason that other counties have not followed suit is because such a committee is purely advisory without any authority. The Public Relations and Economics Committee has felt that the establishment of a Professional Advisory Committee in each county and giving it the authority in local problems now vested in Medical Social Workers or in the Department of Social Welfare at Albany, would obviate many of the unsatisfactory conditions and criticisms which have been current in the past.

There are some thirty situations which can be handled locally by the committee which have heretofore had to be referred to an outside authority. This will obviate endless delays and make medical relief function more efficiently with less red tape or preparation of complicated reports. A revised reporting card is contemplated which may contain the names of all being cared for during the month, one set of signatures only and one notarization only to be required.

Attached hereto is a list of the duties which would be passed over to Professional Advisory Committees. These committees should vary in size depending upon the work prevalent in the county. We would suggest three or more medical members nominated by the Medical Society and appointed by the local Commissioner of Welfare. There should also be at least one dental member, and a nurse or druggist may be added as may be deemed necessary or expedient. One or more survey boards may be designated by the committee to assist it in the investigation of the handling of individual cases. It is possible that in counties that have only a small relief problem the local Compensation Board could

do double duty. In counties with a large relief problem, a separate committee would be essential.

In addition to the general medical problems listed on the attached itemization, these committees would prepare lists of those qualified and desirous of doing relief work under the Act, and should have the power of disciplining if necessary those who fail to co-operate in the program.

In addition, there should be a State Professional Advisory Committee to coordinate the activities of the county committees and act as a buffer between them and the State Department of Social Welfare. It is recommended that this committee be, so far as possible, a continuing committee. It will be necessary for this committee to instruct local committees in their duties and help them get organized and under way. It would be disastrous for the committee to be changed *in toto* each year.

In addition, when the work in the county is sufficient to warrant it, there should be a part time or full time Medical Director of Relief, appointed on the recommendation of the local Medical Society and such an appointee should have the following qualifications:

- 1 Graduation from Class A medical school, licensed to practice in the State of New York.

- 2 At least two years and preferably three years of general practice, one year of which should have included the care of relief recipients.

- 3 Some administrative experience preferably in public welfare, but the following should also be considered: medical director or assistant medical director in a large insurance company, medical supervisor of a public or private hospital dispensary, or Department of Health.

- 4 Knowledge of the psychology of the relief recipient and especially the ability to analyze medical problems relative to that vast group of relief patients whose particular ailments are minor, although they suffer much discomfort as a result of improper mental adjustment and misdirection of their energies. This

can be obtained by relief work and by training in college courses in psychology

The fee schedule has also been discussed very carefully. It has been recognized that the Workmen's Compensation Fee Schedule is the lowest schedule of price which can be paid to insure good medical work and allow the doctor a reasonable profit for his efforts. It must be remembered that the bills paid under Workmen's Compensation come out of industry and the cost of Social Welfare is a direct charge on the public saving and comes out of taxes. To pay Workmen's Compensation Fees on relief cases would bankrupt the state of New York. It has, therefore, been recommended that there be inserted in the Manual a statement that while this schedule is recognized as the lowest one compatible with good work, efficiency, and a reasonable profit, nevertheless, it is impossible to pay such fees, and the doctor is asked to contribute the difference between these scheduled fees and the adopted fees as his share of charity.

The Workmen's Compensation Fee Schedule has been adopted *in toto* with certain minor exceptions with the proviso that a certain percentage of this schedule will be paid for relief work. This percentage will in general vary from 50 to 75 per cent of the Workmen's Compensation Fee Schedule.

There have been numerous complaints that prescribing has been restricted heretofore to the U S Pharmacopoeia and the National Formulary items. There are a number of recognized remedies not yet appearing in either of these publications which should be indorsed. The committee is preparing a supplementary list of items which will be approved without question. Certain other methods of treatment in function now or to be used in the future can be approved locally on the recommendation of the Professional Advisory Committee.

To summarize, therefore, the whole relief problem is under revision to provide a system of administration comparable to that Workmen's Compensation with local autonomy and with a more reasonable fee schedule for payment of the relief pa-

tients' own chosen physicians. This program now awaits the approval of the Medical Society of the State of New York and the Department of Social Welfare. It is felt that such approval will alter the present unsatisfactory administration of medical relief both from the standpoint of the physician and of the Department of Social Welfare.

#### Duties of the Professional Advisory Committee

Medical problems, needing the opinion of a physician or physicians, may be referred to the local Professional Advisory Committee by the local Commissioner of Public Welfare or the Area Office Medical Social Worker.

##### Item 1 *Acute Illness*

When medical care has been given for a prolonged period and physician continues to ask for authorization on an acute basis (Ref by Commissioner)

##### Item 3 *Boarding Homes*

First three months of care refer by Medical Social Worker to Committee if she questions advisability—for renewal Commissioner may refer to Committee before submitting to Medical Social Work. If he does not refer it to Committee certainly Medical Social Worker would see that this be done.

##### Item 4 *Chronic Illness*

Either Commissioner or Medical Social Worker refer if renewal is requested. If Committee OK's No 4957, secure from them at what period forms should again be referred for review.

##### Item 5 *Consultant or Specialist*

Only refer when Commissioner questions advisability of request.

##### Item 6 *Dental*

Commission may wish to refer to dentist or Committee what seems to be excessive or unusual charges and necessity of authorizing such a request. The cost of dental surgery is a problem to Commissioners and may often be referred to Committee.

##### Item 6g *Chronic Diabetes*

Refer renewal of No 4957 to Committee as routine and ask for recommendation as to when No 4957 should be referred back for second review by Committee.

##### Item 8 *Drugs*

Refer to Committee all requests for drugs and sera not listed as U S P or N F, or sera not

given by Health Department, or for use of long time expensive drugs

#### Item 9 *Eye Examinations*

Refer problem of eye specialist or specialists refusing to conform with reimbursement price schedule—asking \$8 00—\$10 00 for each examination.

#### Item 10 *Fractures*

Refer unusual circumstances where surgery has been done at home or physician's offices and where the charges for such services seem excessive.

#### Item 12 *Hospital Care*

Refer renewal of hospital care to Committee.

#### Item 13 *Laboratory*

Refer requests for laboratory services in chronic or protracted illnesses. Committee to work out a list of physicians who could do this work in their offices where no local, or state aid laboratories are established.

#### Item 14 *Major Surgery Outside Hospital*

Such requests might be reviewed by Committee if such requests were questioned by Commissioner

#### Item 15 *Major Surgery in Hospital*

Refer for review those cases where renewal is asked after first thirty (30) days

#### Item 16 *Medical Attendance*

Refer for review those cases where renewal is asked for after first thirty (30) days

#### Item 18 *Mileage*

Refer all physician's bills to Committee where a dispute arose over mileage.

#### Item 19 *Minor Surgery*

Refer where renewal of authorization is requested beyond ten days

#### Item 20 *Morphine or Narcotic Addiction*

Refer for review before sending to Medical Society Worker

#### Item 21a *Nursing Care*

Refer for decision after three months and plan when case should be referred on second review

#### Item 21d. *Home Help (Medical)*

Only refer when Medical Social Worker wishes to have problem reviewed for medical decision relative as to whether or not patient is in need of Institutional Care.

#### Item 23 *Physiotherapy*

Refer all requests for physiotherapy after 6 RX have been authorized.

#### Item 24a. *Pneumonia Serum (Home)*

Refer for opinion when conditional authorization is requested after thirty (30) days and when type serum not given by Health Department

#### Item 24b *Pneumonia Where Serum Not Given*

Refer cases where more than one visit per day or special circumstances have arisen

#### Item 27 *Radium Therapy*

Refer call cases where renewal is requested after 10 RX.

#### Item 28 *Sickroom Supplies*

Medical Social Worker may refer such requests as gatch bed back rests etc. if opinion is needed

#### Item 29 *Treatment Eye Diseases*

Refer chronic eye treatment No 4957 for review by Committee and request when No 4957 should be referred back for a second review

#### Item 30 *Tuberculosis*

Chronic Refer No 4957—same as above.

#### Item 31 *V D Chronic*

Refer after 21 treatments have been authorized and further authorization is requested

#### Item 32 *X Ray Diagnosis—Vol Hospital and Physician's Office*

Refer when cost exceeds \$20 00 and further authorization is requested.

#### Item 33 *X Ray Treatment—Vol Hospital and Physician's Office*

Refer to Committee for decision and if renewal is requested refer back for opinion

## Part III

### Nonprofit Medical Expense Indemnity Insurance

To this subject the Council has devoted much time and thought following the declaration of the Special Session of the House of Delegates of the American Medical Association in favor of voluntary cash indemnity insurance and against compulsory health insurance.

After recording the Society in full accord with the policies adopted at the Special Session, the Council formally approved "the principle of nonprofit cash indemnity medical insurance." It then instructed its Committee on Legislation "to support legislation for amendment

of the insurance laws which would permit nonprofit medical insurance." This has been done with respect to a bill introduced at request of the State Department of Insurance, amending Article IX-C to this effect—an enabling act which would permit the setting up of nonprofit organizations and which would prevent a single such corporation from writing insurance for both hospital care and medical care.

The Council has been made aware of much interest throughout the state in this subject, and particularly that certain of the existing successful hospital insurance organizations have expressed a desire to extend their insurance to cover medical expense as well as hospital expense. Conferences have been held with the Directors of the 1,000,000 client Associated Hospital Service, Inc., of New York City, which operates not only in the five metropolitan counties but in twelve neighboring counties. The Council finally expressed itself as follows:

That nonprofit insurance agencies for hospital care should not undertake to supply medical care insurance, either in or outside of a hospital, unless such agencies be so set up as to give the medical profession proper administration over medical aspects of this type of insurance.

That nonprofit insurance agencies supplying cash indemnity for medical expense should cover medical care in the home, in the physician's office and in the hospital.

The Council has learned of the devising in skeleton form of various plans for nonprofit organizations for medical expense insurance to be formed when the enabling act shall have been made law. In anticipation that the Society's approval will be sought by such organizations, the Council has directed its Committees on Public Relations and on Legislation to sit together to study such requests and report. One request for approval has been received. It will be necessary that principles shall be evolved by which the merits and working details of policies can be judged.

### Workmen's Compensation

Through its Committee on Workmen's Compensation

Harry Aranow, M. D., *Chairman* Bronx  
Joseph C. O'Gorman, M. D. Buffalo  
David J. Kaliski, M. D. New York City

Director of the Bureau, there have been, effected for the Council many adjustments and readjustments of operation in this field. These are clearly indicated in the following report of the Council Committee, and the Bureau of Workmen's Compensation under its control.

A total of 16,203 licensed physicians were qualified by the various county society boards up to February 1, 1939. In addition, a total of 278 physicians have been qualified by the Homeopathic Society, making a grand total of 16,481 physicians qualified for Workmen's Compensation in the state.

The following totals indicate the number qualified in each county:

|                 |       |              |     |
|-----------------|-------|--------------|-----|
| Albany          | 258   | Niagara      | 149 |
| Allegany        | 35    | Oneida       | 198 |
| Bronx           | 1,778 | Onondaga     | 336 |
| Broome          | 194   | Ontario      | 89  |
| Cattaraugus     | 70    | Orange       | 133 |
| Cayuga          | 56    | Orleans      | 24  |
| Chautauqua      | 94    | Oswego       | 61  |
| Chemung         | 90    | Otsego       | 49  |
| Chenango        | 38    | Queens       | 964 |
| Clinton         | 42    | Rensselaer   | 110 |
| Columbia        | 33    | Richmond     | 103 |
| Cortland        | 39    | Rockland     | 75  |
| Delaware        | 40    | Saratoga     | 60  |
| Dutchess-Putnam | 137   | Schenectady  | 89  |
| Errie           | 741   | Schoharie    | 25  |
| Essex           | 27    | Schuyler     | 11  |
| Franklin        | 56    | Seneca       | 24  |
| Fulton          | 60    | Steuben      | 80  |
| Genesee         | 46    | Suffolk      | 163 |
| Greene          | 35    | Sullivan     | 60  |
| Herkimer        | 50    | St. Lawrence | 78  |
| Jefferson       | 97    | Tioga        | 32  |
| Kings           | 3,020 | Tompkins     | 59  |
| Lewis           | 19    | Ulster       | 99  |
| Livingston      | 47    | Warren       | 48  |
| Madison         | 35    | Washington   | 38  |
| Monroe          | 431   | Wayne        | 59  |
| Montgomery      | 53    | Westchester  | 628 |
| New York        | 4,263 | Wyoming      | 34  |
| Nassau          | 417   | Yates        | 24  |

Of these 11,411 are registered in New York district, 1,530 in the Albany district, 1,089 in the Buffalo district, 11,155 in the Syracuse district, and 1,018 in the

Rochester district of the Department of Labor

The committee or the Director of Workmen's Compensation have participated in numerous meetings, conferences, and hearings before the Department of Labor (Commissioner, Industrial Council, etc.) Matters of interest to the State Society or to a particular region or county were considered. In addition, numerous informal conferences were held. These conferences indicate the necessity for continuous contact between the Society and the Department of Labor.\* The proper administration of the medical aspects of the Workmen's Compensation Law and the preservation of the rights and privileges of the medical profession require a point of contact between the profession and the Labor Department and other agencies interested in the various aspects of Workmen's Compensation. This is maintained by your committee and the Director of Workmen's Compensation.

After nearly four years of experience in this field the wisdom of the State Society in appointing a special committee on Workmen's Compensation and a director has been amply demonstrated. We receive daily numerous communications and inquiries by letter, telephone, and in person not only from the Department of Labor but also from insurance carriers, employers of labor, welfare organizations, and members of the Legislature involving the various aspects of the law as they apply to physicians and injured employees. Prompt attention is given to all such inquiries and requests for information, and, when necessary, personal contact is made. The bureau has been called upon for assistance a number of times by physicians in various parts of the country who have treated compensation claimants injured outside the state but covered by the New York State law.

There has been established cordial relationships with the various groups and parties of interest to the advantage of the

medical profession, as well as the workers of the state.

In the course of the year the director has appeared before the various county and local medical societies and discussed Workmen's Compensation in an effort to make better known the details of the law and to facilitate its administration. It is hoped that the continuation of these personal appearances will still further smooth out any differences that may exist and result in a more strict compliance on the part of physicians with the requirements of the law.

The director appeared before the annual conference of the chairmen of the county legislative committees, and at numerous meetings of the Industrial Council of the Department of Labor, and at a number of hearings before the Industrial Council affecting the status of authorized physicians. He also consulted with the Workmen's Compensation Board of Albany County with reference to the granting by the Industrial Council of a qualification in roentgenology to a physician who had been rejected for this qualification by the Workmen's Compensation Board of Albany County. Suggestions were made as to the proper procedure to be followed to obtain a reopening of this matter by the Industrial Council so that the local county society board may be given an opportunity to present its reasons in full for rejecting this physician, to the end that a reversal of the action taken by the Industrial Council may be had.

*C-4 and C-104 Reports* — We have been informed that physicians still neglect to send in their reports on time, and in some instances do not supply sufficient information on their C-4 reports to enable the referee to make an award to the claimant without postponing the hearing and subpoenaing the attending physician to appear in person at another hearing. This results in a serious delay in paying compensation to a workman who is incapacitated. Undoubtedly physicians will be more prompt in their reports and explicit in their answers to the necessary questions on the reports, when they

\* If the interests of the medical profession are to be safeguarded.

know that in addition to putting themselves in jeopardy in so far as their bill is concerned, they are causing great hardship to an injured workman whose only means of support may be compensation for time lost while incapacitated.

On November 28, 1938, a questionnaire concerning the administration of the Workmen's Compensation Law in its various aspects was sent to each county society in the state. An attempt was made thereby to determine in what manner the administration of the local county society Workmen's Compensation Committee could be improved and the administration of the law facilitated. Up to the present time the committee has received replies from twenty counties. These indicate that the majority of physicians of the state are satisfied with the new law and the way it is being administered. They also indicate that relationships have greatly improved between the medical profession and insurance carriers and employers. When the survey is completed, an additional report will be issued to the Council of the State Society and suggestions based on the information elicited as to the improvement in county society function, and revisions of the administrative procedure where necessary will be recommended.

*Arbitration*—During the year 1938 forty-nine arbitration sessions were held in the metropolitan area. Bills amounting to \$58,611.48 were considered, of which \$45,089.72 was in dispute, awards totaling \$28,068.32 were made.

Awards were made in five hundred and two bills under consideration, and the physician received no award in ninety-five instances.

Arbitrations were held on May 19, 1938, in Binghamton for Steuben, Chemung, and Broome counties. On May 20, 1938 in Syracuse for Onondaga, Oneida, and Oswego counties, also on the same day in Rochester for Monroe, Ontario, and Yates counties. On May 21 in Buffalo for Erie, Niagara, and Chautauqua counties. On October 27, 1938 in Kingston for Ulster, Dutchess, Sullivan, Orange, and Greene counties.

At the May arbitrations, bills amounting to \$4,252.66, of which \$3,754.65 were in dispute, awards of \$2,400.66 were made.

At the October arbitration, bills amounting to \$3,194.60, of which \$1,558.00 were in dispute, awards of \$1,033.00 were made.

In sixty-nine bills, no awards were made in four cases, in forty-one cases awards were made, and twenty-four bills were settled without a hearing.

It is intended to hold additional sessions for the upstate area beginning the end of March and continuing through the month of June. Fortunately, a relatively small number of bills have accumulated which require arbitration. In the majority of instances, either through the effort of the local county society, or the intervention of the Director of Workmen's Compensation, a large number of dispute bills have been settled by mutually satisfactory compromise. In many instances arbitration could be avoided and prompt settlement of a physician's bill facilitated if the following suggestions would be followed by practicing physicians and specialists:

The 48-hour report (C-104) and the 20-day report (C-4) and all specialists' consultation reports should be promptly sent to the insurance carrier, as well as to the Department of Labor. Physicians should make every attempt to ascertain the name of the carrier when the patient first presents himself. Where an employer is insured, failure to notify the carrier directly often results in delay in the investigation of the compensation status of the case and also delay in medical inspection by the carrier resulting in objection to or in delay in the payment of the doctor's bill.

Under the rules and regulations of the Department of Labor all specialists and consultants must submit a report of their findings to the Industrial Commissioner, the employer or carrier, and to the attending physician. In failing to send a copy to the insurance carrier, the latter may not be apprised of the fact that consultation was held and may, when the

case is reported, call in a consultant of its own thus increasing unnecessarily costs of insurance. As the result of consultation, the attending physician may follow a plan of treatment to which the carrier after its medical inspection may object. Prompt notification by consultants, as above indicated, would obviate many of these difficulties. Particularly in chronic cases the carrier should be notified of consultation so as to avoid later arbitration of a bill for continued treatment based upon the opinion of the consultant. Where a case has been previously treated by another physician for the same injury, the succeeding physician should always promptly communicate with the first physician, preferably by phone and also by letter, in order to obtain a complete record of the case including all reports of diagnostic procedures regardless of the lapse of time between the treatments of the two physicians. This will avoid in many instances duplication of laboratory and x ray service. Where a considerable lapse of time has occurred since the last treatment of the first physician, it would be advisable for a physician to communicate with the insurance carrier in order to determine whether the case has been closed and to ascertain the compensable status of the case. Bills have been objected to a number of times, especially where long continued treatment was necessary, because the physician failed to call in a specialist or better qualified physician to cope with a complicated or obstinate medical situation. In other words, carriers have frequently objected to paying for long continued treatment where, in the opinion of their medical examiner, a general practitioner should have called in a specialist to treat the case. Many times physicians giving practically only physical therapy treatments have failed to ask for authorization where such treatment exceeded the cost of \$25 00. Authorization should be requested for such treatment, as well as other procedures under Section 13-a(5) of the law when the total visits approach the sum of \$25 00. Authorization is not

required in an emergency or may not be unduly withheld by the carrier or employer, so as to jeopardize the welfare of the patient. Where a claimant informs a doctor that the Labor Department or insurance carrier has advised the claimant to return to the doctor for further treatment, the doctor should check up to determine the accuracy of the claimant's statement. Where a physician is unfamiliar with the minimum fee schedule, his bill is often rejected by the carrier or employer. If a physician is in doubt before rendering a bill, he should confer with the compensation committee or board of his society for advice. It should be borne in mind that authorization should be obtained for a fee in excess of the schedule, but in any event it might be advisable for a physician supplying unusual or extended medical care to apprise the carrier or employer of the procedures being carried out. Progress reports every three or four weeks in long continued cases often result in prompt payment of bills, where failure to so inform the carrier of the progress of the case may ultimately result in objection to the bill.

*Physicians Medical Bureaus*—Under date of May 13, 1938, the Industrial Council ruled that applications for licenses to physicians to operate more than one medical bureau should not be encouraged that the Compensation Boards of the various county medical societies would be within their rights in refusing to recommend the licensing of such bureaus as would not be conducive to the best interests of injured workers and good medical practice. In other words, the county society compensation board may hereafter use its discretion before granting a physician a license to operate more than one medical bureau other than his own private office.

*Amendments to the Law*—The Department of Labor may this year introduce a bill calling for a change in Section 13-a(4) to reduce the time of sending in the C-4 report from twenty days to fifteen days. It is also considering changing the procedure to excuse a physician



for failure to file reports which, under the present law, requires action by the Industrial Board. It is contemplated making failure to file within the forty-eight-hour or proposed fifteen-day period grounds for objection of a doctor's bill by the employer or insurance carrier. The issue as to whether the employer or carrier's interests were prejudiced by such failure to file on time is to be determined by the Arbitration Board as now set up to arbitrate medical bills. Although the carriers have not in the past frequently taken advantage of this technicality and required a physician to obtain the excuse of the Industrial Board, there is no question that in many instances failure to report on time has resulted in prejudice to the employer or carrier in investigating the worker's claim for compensation. In some instance it also has jeopardized the interests of the injured worker in obtaining prompt compensation while disabled.

Your committee again recommends an amendment to the Workmen's Compensation Law to give the Department of Labor authorization to assess compensation and medical costs against the non-insured employer. It further recommends a provision in the law definitely to fix a penalty for violations of the provisions of the amended Workmen's Compensation Law, Chapters 258 and 930 of the Laws of 1935, applicable to all interested parties.

The committee also recommends that the Commissioner of Labor be requested to withdraw the provisions under the fee schedule which permit an employer or carrier to deduct 5 per cent of any bill in excess of \$15.00 when paid within thirty days. It is the unanimous opinion of the various county societies of the state that this is an unreasonable deduction and not warranted unless accompanied by a penalty for failure to pay within a similar or other reasonable period of time. No such deductions are permitted from bills submitted by hospitals.

*Legislation*—The Department of Legislation is sponsoring two bills which have been introduced by Senator Condon, Senate Int No 911-912.

The first bill provides, in addition to a report from an especially qualified physician selected as an impartial examiner by the Department of Labor, a new clause to require the testimony of such impartial examiner if required.

The second bill gives to an employer or laboratory which has applied to the county society Compensation Board for a bureau license and been rejected the right of appeal to the Industrial Council in the same manner that a physician has the right of appeal over the decision of a local county medical society. Workmen's Compensation Board. This bill also provides authority for the Industrial Board to make an award of the reasonable value of medical services or treatment rendered to an injured employee where the employer has failed to secure compensation coverage.

Both of these bills were introduced last year with the approval of the Medical Society and should be endorsed this year.

Two bills were introduced by Senator Washburn relating to occupational diseases, Assembly Int 1244-1245.

A bill, Assembly Int. 1192, was introduced by Assemblyman Wilson, who last year introduced a similar bill amending the Workmen's Compensation Law in a radical manner, so as to take away from the medical societies the responsibility of qualifying physicians and putting the same in the hands of a committee of five physicians to be appointed by the Industrial Commissioner for a term of three years.

Under this bill practically all the functions now vested in the medical society would be served by this committee. It also provides for the creation of an administration committee of three members, one of whom shall be a representative of labor, one a representative of the Industrial Commissioner, and the other a physician who shall be a representative of the employers, to pass upon all disputed bills. This is a bad bill and is being opposed for obvious reasons.

*State Radiology Examining Committee*—During the past year the committee on x-ray examinations set up by

the State Society has functioned only in the metropolitan area, although only recently a request was received from an up state county to set up an examining committee locally

Twenty seven candidates have been examined during the past year and twelve passed the examination and were qualified by their local county societies with the "D" rating. Fifteen failed to pass

Where a local county society is in doubt as to the qualifications of a physician applying for rating in roentgenology, the candidate may be referred to the director for examination by the special committee set up by the State Society. Dr William A Stewart served as chairman of this committee until October, 1938, when, owing to press of other duties, he resigned, and Dr Charles W Schwartz was appointed as chairman. The other members of the New York area committee are Dr Alfred L L Bell and Dr John J Masterson of Brooklyn and Dr E Forrest Merrill of New York City. To all these gentlemen the State Society owes a debt of gratitude.

*Subcommittee on Industrial Dermatoses*—A subcommittee was appointed on industrial dermatoses consisting of Dr Eugene F Traub as chairman and twelve other members

During the past year and a half numerous complaints have been received about the operation of the Workmen's Compensation law in respect to industrial dermatoses. The committee has been attempting to make an adequate study of the situation, but owing to a failure thus far to obtain the necessary records from the Department of Labor, this work has been hampered. The committee is of the opinion (1) that clinics throughout the state are not making a proper effort to establish the presence of industrial dermatoses among their patients, (2) that many carrier consultants have acted the part of special pleaders rather than dermatologic experts, (3) that hearings before a referee have not been conducted in such a manner as to enlighten the officiating referee at the hearing so as to enable him to render a just award. The

committee hopes by a more complete study with the co-operation of the Workmen's Compensation Division of the Department of Labor to clarify the situation and bring order out of chaos in a very important sector of the medical compensation law

*Injection Treatment of Hernia*—During the past few years your committee has given consideration to the subject of the injection treatment of hernia

The following rules and regulations have been devised as a guide to physicians undertaking this form of treatment.

*Injection Treatment of Hernia.*—The exact status of the injection treatment of hernia as a therapeutic procedure has not as yet been definitely determined. It is agreed that it is in a more or less experimental stage and has not been established as a routine method of procedure. It should only be used in suitable cases by surgeons thoroughly familiar with the anatomy of hernia and experienced in the method of treatment. The mixture to be injected should be properly standardized and the physician using it should be thoroughly familiar with its composition and the effects after injection

In view of the fact that the injection method is being actively exploited by certain purveyors of mixtures as a cure for hernia without proper regard to the indications for the treatment, the suitability of the case and the experience of the physician in this type of work, it has been deemed expedient in the interest of the injured workman as well as all other interested persons under the Workmen's Compensation Act to set up certain rules and regulations for the guidance of authorized physicians

- 1 The injection method is not a substitute for surgery in all cases. For the present surgical treatment should be given preference unless there are definite contra indications to surgery and unless the patient objects to operation. In the latter event the injection method should not be used if there are any contra indications to its use and if the case is not a suitable one.
- 2 After having made and recorded the diagnosis of hernia and before attempting treatment the diagnosis of hernia should be confirmed by the medical representative of the employer or carrier
- 3 Written authorization for the injection

treatment should be obtained from the employer or carrier and a fee for the treatment agreed upon

- 4 The surgeon should record and keep on file the indications for this method of treatment in preference to orthodox surgical treatment. All contraindications to the new method should be considered before advising it. The possibility of sliding hernia must be kept in mind. If there is any doubt as to the suitability of the case for injection, this method should not be used.
- 5 Only a physician familiar with the anatomy, pathology, diagnosis, and complications of hernia and one experienced in the technic of the injection treatment of hernia should accept these cases for such treatment.

Physicians throughout the state should be made familiar with these rules, especially with the necessity of obtaining authorization for this experimental procedure before undertaking it.

At this time it is not thought advisable to include under the minor specialties the injection treatment of hernia. When requested to do so a local county society compensation board may express an opinion as to the specific qualifications of any given physician in this field.

*Fee Schedule*—During the past year the Industrial Commissioner promulgated the Metropolitan Fee Schedule for the entire state.

The new schedule has now been in operation officially since May, 1938, and it is the opinion of the committee that it is working out satisfactorily. Replies to a questionnaire recently sent out to every county in the state also indicate that on the whole the schedule is satisfactory. There seems to be general dissatisfaction with the 5 per cent discount allowed for payment of bills within thirty days. The Department of Labor through its Industrial Council, and with the co-operation of your director and a small committee of the Compensation Insurance Rating Board, is undertaking a revision of the fee schedule and the various rules and regulations adopted by the Department of Labor up to the

present time. The revision is more of a clarification than an actual revision and will be promulgated shortly by the department. When revision is completed the Department of Labor expects to issue a new schedule in booklet form.

Still under consideration is a revision of the x-ray fees to include a discount for multiple examination at one time. Where more than one physician treats an injury for which the fee schedule carries a fixed fee for a given period of treatment, it is the rule that such physicians should agree among themselves as to the proration of the fixed fee in accordance with the amount and type of the treatment rendered by each. If the physicians cannot agree, the county society in which the original attending physician resides and practices (should the two physicians not practice in the same county) shall assist in the proration. If a mutually satisfactory agreement cannot be arranged by these efforts, the bill is arbitrated without cost to either party, in the same manner as disputed bills under the law. Up to the present time it has been necessary in very few instances to resort to arbitration.

Consultants and laboratory fees are not included in the above proration, as these carry an extra fee.

No provisions were made in the upstate schedule for mileage fees. It was agreed that in ordinary cases mileage fees would not be paid, but that where unusual circumstances required an attending physician to travel unusual distances to an outlying section, the employer or carrier would, as in the past, pay a reasonable mileage fee in addition to the scheduled fee. A few instances have arisen since the schedule went into effect upstate that required special attention. It was not contemplated, however, that where ample medical service was available in any community a physician from a distant community would be paid mileage to visit a patient in an outlying section. In other words, if treatment was rendered first in one community and the patient subsequently went to his home in a distant community,

the patient should be referred to a local practitioner, preferably of his own choice, for continued care. Only where a qualified physician was not available was it contemplated that a physician should travel to a distant community to treat such a patient and be paid mileage.

*X-Ray Plates*—In May, 1938, the Industrial Commissioner issued an order requiring physicians, insurance carriers, employers, hospitals, and x-ray laboratories to preserve x-ray films for at least five years, and in no case are they to be destroyed without a report of the findings of such x rays being filed with the Department of Labor as a permanent record.

It is to be noted that x ray films are a part of the physician's record, and his property. A carrier or employer should be accorded the courtesy of reviewing such films with the understanding that they be returned to the physician or laboratory responsible for their preservation.

*No-Lost-Time Cases*—Considerable difficulty has arisen during the past year in regard to the payment of bills for medical services, especially in no-lost-time cases (a less than seven days loss of time), where the claimant fails to appear at a hearing before the Department of Labor. In such cases the department often fails, because of the nonappearance of the claimant, to establish causal relationship. In a number of such instances employers or carriers have held up the payment of the doctor pending determination by the department. In many instances this has worked a great hardship to physicians who have rendered medical care to claimants who have had more or less trivial accidents which did not incapacitate them for a period of more than seven days. In such instances the claimant was not interested in appearing before the Department of Labor because no compensation to him was involved, and yet the physician rendered medical care. Your director for over a year has been endeavoring to have the Department of Labor change its procedure, and if necessary the provisions of the law, to enable the Department of

Labor to accept a notarized report of the accident by the employer, and a notarized report by the claimant, attesting to the fact that he received medical care, as prima facie evidence in establishing the validity of the physician's bill. This is a procedure comparable to the acceptance of the physician's C-4 notarized report as prima facie evidence before a referee in determining causal relationship. This matter will be pressed for a solution.

*Posting of Physicians' Names*—The matter of the failure of the Aetna Casualty and Surety Company to abide by the ruling of the Industrial Commissioner to refrain from sending out lists of names of qualified physicians to policyholders has been the subject of study by a committee appointed by the Industrial Commissioner and is now in the hands of the Counsel of the State Society, Mr. Lorenz J. Brosnan, for legal action.

*Rule 12*—Under date of June 14, a bulletin was issued by this committee advising physicians that Rule 12 on page 6 of the minimum fee schedule did not, as was contended by the insurance carriers' organization, apply to multiple x ray examinations. As indicated elsewhere the question of a discount for multiple x ray examinations is now under consideration by the Industrial Council.

*State Insurance Fund*—It is well to point out here that recently there has been a reorganization under the law of the State Insurance Fund.

The fund has been given a form of administration that takes into account the business nature of the fund, at the same time separating it more definitely from the department of government which is entrusted with the administration of the Workmen's Compensation Law. This has been effected by placing the administration of the fund in the hands of a board of commissioners of nine, one of whom is the Industrial Commissioner ex-officio, the other eight being all policyholders in the fund. An executive director and his deputy, a medical director, an actuary, and an attorney are all appointed by the commissioners. All administrative authority is vested in the

medical director under the authority of the commissioners. The management is thus made responsive to the interests of the policyholders.

A communication received recently from the Deputy Executive Director, Mr. Henry D. Sayer, former Industrial Commissioner of this state, among other things, states:

"It is quite needless for me to say to you that organized medicine has assumed a grave responsibility in the administration of the medical provisions of the compensation law. You are not only aware of that responsibility but you have insistently declared it to the members of your group. The objectives to be attained are prompt and efficient medical and surgical care for those who require such treatment under the law. Fair dealing is, of course, implied. Undue costs impose an unfair burden on industry. Perhaps it is not always realized that the entire cost of compensation, including the medical expense, is a direct charge on industry and that the insurance carriers are but the agency for collecting and distributing the cost. To that end the machinery has been set up for the administration provided by law for the determination of the reasonableness of the medical charges. That machinery will work smoothly only if all the parties in interest co-operate fully. The co-operation of the medical profession is particularly essential in connection with promptness of reporting. Failure to report promptly renders the doctor so failing liable to have his charges rejected unless excused by the Industrial Board after a hearing. Thus far, carriers, including the state fund, have frequently waived the objection of late reporting. So serious is the matter becoming, however, that it is questionable how long such waivers should be granted. Delay in reporting prejudices the injured man, it is in his interest that prompt reports are required. Insurance carriers cannot pay compensation until they have medical reports that warrant such action. Most doctors, I am glad to say, are prompt in reporting. If the reasons and necessity for prompt reports were had in mind by all doctors I am sure it would result in benefit to all injured workers and would remove the necessity for additional work and checking up by the carriers."

*Qualification of Candidates*—It was not to be expected that in the haste of qualifying the physicians of the state under the amended Workmen's Com-

pensation Law, necessitated by the brief period of time between the passage of the new law in March, 1935, and its going into effect in July, 1935, the State Society and various county societies would be able to set up a perfect administrative machinery to encompass fully the purpose of the new law. Suffice it to say that under the circumstances the state and county societies set in motion a machinery that operated remarkably well and in the interests of all concerned.

In the course of the past three years the machinery has been perfected until, at the present time, an applicant to practice under the Workmen's Compensation Law either as a general practitioner or a specialist receives prompt attention and his qualifications are scrutinized with great care. It was necessary to instruct the various county medical societies, especially during the first year, as to the scope of a general practitioner's activities and in the use of the code symbols adopted uniformly throughout the state at the suggestion of your committee.

Conditions differ in various parts of the state not only in regard to the standards of medical care and medical specialism, but in the availability of especially qualified practitioners desiring to practice under the Workmen's Compensation Law.

In the large cities and counties a sufficient number of both the general practitioners and specialists are available, not only to provide adequate care for the injured workman under all circumstances, but also to enable the county society Workmen's Compensation Boards to set up qualifying committees before whom all applicants for special rating under the law must apply or appear.

Your committee has given considerable attention to the creation of such standards of qualifications, especially in the specialties as will fully protect the injured workers, as well as assure government authorities and other interested parties that the county and state societies are fully cognizant of their responsibility in according a physician either a general rating or a specialist's rating. While it is true that a practitioner need only con-

form to the average level of qualifications of medical practitioners in his community, yet it has been felt proper for your committee to suggest a general level of qualifications that will serve not only in measuring qualifications of physicians in big cities with university affiliations, but which might also, with perhaps slight modification, be applicable to all parts of the state.

An endeavor has been made to pattern these standards of qualification on those standards which have been adopted by the various national boards, and voluntarily assumed by thousands of physicians throughout the country who wish to be designated as specialists with the approval of these national boards.

Your committee is at the present time completing a set of these standards which will shortly be promulgated to the Workmen's Compensation committees of all the counties with the hope that they will be adopted, with modifications where necessary, in accordance with the peculiar circumstances that may exist in any given region of the state. While it is not to be expected that these rules and standards will be retroactive, yet it is hoped that they will serve in the future to guide those responsible for the qualifications of physicians to practice under the amended Workmen's Compensation Law. As has been indicated elsewhere, the State Society has already set up a committee of x-ray specialists to act in an advisory capacity to local county society boards in qualifying radiologists and radiotherapists about whom there is a question as to qualification. The fact that this board has been called upon during the past year to assist the county societies in increasing frequency in the field of x-ray, indicates that the new standards which will ultimately be promulgated will meet with similar acceptance.

*Settlement of Bills*—During the course of the year your Compensation Bureau has been called upon to help in the settlement of doctors' bills and the adjudication of other disputes arising between the profession and the county society and between physicians, in-

surance carriers employers of labor, etc.

The attention of the county society boards is called to the fact that this bureau is prepared to continue in this capacity and invites local county societies and physicians throughout the state to utilize the services of the bureau. Many physicians throughout the state write directly to the Department of Labor on matters pertaining to many of the features of the new law. These inquiries are almost without exception referred to your director for reply. It would be better if physicians would realize that the court of first appeal should be the county society and then their State Society Compensation Board, thus relieving the Department of Labor of a great deal of unnecessary labor.

The bureau is prepared on reasonable notice to participate in the Workmen's Compensation problems of all the local county societies, if necessary by personal appearance. All problems affecting the new law should be referred promptly to this bureau.

*Municipalities as Self Insurers*—Many municipalities throughout the state are self insurers. Some of the smaller communities are covered by insurance carriers. All injured workers employed by the local communities are entitled to the same privileges as provided employees under the Workmen's Compensation Law.

A situation arose in the course of the last year wherein a large municipality failed to pay doctors' bills and refused arbitration. This matter was brought to the attention of the Industrial Commissioner by your director with the request that the Attorney General rule on the necessity of arbitration by such municipalities. The Attorney General ruled that 13-g of the Workmen's Compensation Law was applicable to the municipality and that this section of the law governing arbitration is general statewide, uniform in its provisions, and provides no exceptions. The constitutionality of the statute of which this is a part was sustained by the highest courts. Section 13-g of the Workmen's Compensation Law is not superseded by, nor in conflict

with, any law of a municipality After the receipt of this ruling the municipality in question proceeded with the arbitration of disputed bills The attention of physicians throughout the state should be drawn to the fact that all employees, with the exception of those on Work Relief, are covered by the Workmen's Compensation Law of the state.

*Bulletins*—During the past year of 1938 a number of bulletins were issued covering arbitration provisions for the upstate counties

On February 24, 1938, a bulletin was issued requesting all county societies to contact legislators with the idea of bringing pressure to bear on the Industrial Commissioner to promulgate the Metropolitan Fee Schedule for the entire state

A bulletin was issued on June 14, 1938, concerning the necessity of adherence to the fee schedule in the settlement of bills by physicians

A bulletin was issued on March 4, 1938, on the qualification of physicians as arbitrators

A bulletin was issued on May 5, 1938, regarding the preservation of x-ray plates

Rule 21b was promulgated and a bulletin issued on May 5, 1938, advising physicians that any physician, specialist, or consultant involved in the medical care and treatment of compensation cases must appear at a hearing when subpoenaed and shall give his testimony for the prescribed fee set forth in the rules and regulations adopted by the Industrial Commissioner

This rule does not deprive the consultant or specialist applying to the Industrial Commissioner for a higher fee as provided by Rule 21 In the event of failure to comply with this regulation the physician, specialist, or consultant will be held responsible to the Industrial Council

*Appreciation*—In closing, it is believed desirable to call to the attention of the membership that in the course of the past year your committee and the bureau have had the cordial co-operation of the Industrial Commissioner and of the

Division of Workmen's Compensation of the Department of Labor Mr. Hugh J Murphy and his assistant, Mr. J Konesni, have been especially helpful in their co-operation with the State Society and with numerous physicians who have applied to the Department of Labor for assistance.

To the subcommittees who have assisted in special studies our thanks are due, as well as to the members of the various qualifying advisory committees throughout the state who have unselfishly devoted their time and effort in helping to carry out the responsibilities of the state and county societies

Our special thanks are due to the office staff for their devotion to their duties

## Part IV

### Legislation

The Council Committee on Legislation,

James H Borrell, M D, *Chairman*

Buffalo

B Wallace Hamilton, M D New York

John L Bauer, M D Brooklyn

makes a preliminary report only at this time with the understanding that there will be a supplementary report when the house meets

The Constitutional Convention, which was in session during the summer, was almost as demanding in time and effort as a regular session of the legislature. More than twenty propositions for amendments related directly to the practice of medicine or public health activities These were finally boiled down into three, which were presented to the electorate in November and adopted During the period that the Convention was in session, we issued three bulletins and, through Dr Lawrence, were represented at numerous public and private hearings before committees

Subsequent to election we pursued the usual procedure of assisting county society legislative committees in getting in touch with their newly elected legislators and as early as possible reported to them the personnel of the newly created

legislative reference committees. The committee personnel in the Assembly remains much the same, except that there is a new chairman for the Public Health Committee. The Senate, however, has changed its political aspect, the Republicans having won in the last election and, accordingly, the personnel of all of the committees is largely changed, especially are there new chairmen.

The usual precautions are being taken to keep people informed through our bulletin service and to keep the county society committees and their legislators in close touch with each other.

Bills relating to public health and medical activity have not been so plentiful the early part of this session as was the case in recent sessions, but probably this delay is due to the fact that the Commission to Formulate a Health Program appointed by the last legislature, will not be prepared to make a report before April 1.

Several bills that have appeared are exceedingly important, namely, an amendment to the Insurance Law legalizing the creation of nonprofit medical indemnity associations, a full citizenship bill requiring that no physicians graduating from foreign institutions be granted licenses to practice medicine in this state unless they are citizens of the United States, and our Physicians Lien Bill, reintroduced at our request. A bill on radiology, requiring that radiologists be physicians, has been reintroduced. The chiropractors have reintroduced a bill similar to last year's except that they do not ask for the use of x ray equipment. Several bills relating to regulating the manufacture and sale of food and drugs, two of which are re introductions, have appeared, one or two that call for reorganization of the public health program in the state and one requiring that all hospitals receiving assistance from the public be required to admit any patient seeking entrance and to permit all physicians to admit and treat their patients. The merit of some of these bills is highly controversial. A number of amendments to the Workmen's Com-

pensation Law have also been proposed.

This is likely to be a prolonged session and a more complete report will be prepared and submitted at the time of the annual meeting.

### Publications and Medical Publicity

Beginning January 1, 1939, the Council, at the suggestion of the Journal Planning Committee, set up a new mechanism for management of the JOURNAL, Directory, Technical Exhibits, and Publicity Work. Three Council committees were created to work separately to supervise literary work, business work, publicity work, and to act together as a Publication Committee. Thus the Publication Department and the Bureau of Public Relations have been merged, as directed by the House in 1938.

The new committees are at present constituted as follows:

#### Business Division

|                      |          |          |
|----------------------|----------|----------|
| Donald S Childs, M D | Chairman | Syracuse |
| A L Loomis Bell, M D |          | Brooklyn |

#### Literary Division

|                        |          |           |
|------------------------|----------|-----------|
| George W Kosmak, M D   | Chairman | New York  |
| Samuel J Kopetzky, M D |          | New York  |
| Warren Wooden, M D     |          | Rochester |

#### Publicity Division

|                       |          |          |
|-----------------------|----------|----------|
| Guy S Carpenter, M D  | Chairman | Waverly  |
| Terry M Townsend, M D |          | New York |

Acting in concert, these three committees become the Publication Committee under the general chairmanship of Dr Peter Irving.

*Journal*—During the calendar year 1938 the JOURNAL was published as it had been since January 1, 1934, under supervision of the JOURNAL Management Committee. The total cost for 1938 was \$14,506 17, or 89 cents per member per year.

Beginning with the January 1, 1939, issue, arrangements have been made for control in the headquarters' office of the Society at 2 East 103rd Street, New York City, of all phases of the JOURNAL pro-



duction except the actual printing and mailing Editorial work, advertising solicitation, make-up of text and advertising pages, and the business features are all done at that address and directly under the supervision of the Publication Committee

The page size has been increased by  $\frac{1}{4}$  inch each way, making the new page  $7 \times 10$  inches, the type dimensions are the same as before, thus allowing for wider margins New type faces are being used with space between all lines, and this with the monotype printing makes the reading matter more pleasing to the eye.

Because the change in the method of production of the JOURNAL could not be definitely arranged until the end of November, after advertisers had completed their schedules for 1939, the income from this source may be less this year and therefore the final cost of publication greater Every effort is being made to obviate this possibility and it can safely be said that the next year following should show marked improvement.

*Medical Publicity*—During the year this work has been continued in the same fashion as previously Medical events, such as meetings of the District Branches, addresses by officers, JOURNAL editorials, and news events of interest, such as speeches of officers of the Society, have been issued and been given widespread publication throughout the state. Publicity has been given the press for the post-graduate courses given by county medical societies under the auspices of the Committee on Public Health and Education There have been twenty-five newspaper releases, and thousands of reprints of articles have been distributed Authors of these were Dr Nathan B Van Etten, Dr Peter Irving, Dr Joseph S Lawrence, Dr Chas Gordon Heyd, Dr Howard W Haggard, Dr Samuel J Kopetzky, and Dwight Anderson

In the matter of Speaker's Service Bulletins the Council carried out the directions of the House at its 1938 session "to make a special review of this particular part of the Bureau's activities and

take proper action as to its continuation or curtailment."

A questionnaire was mailed from the Secretary's office to the list of 958 physicians receiving these bulletins asking 3 questions (1) "Is the purpose worthwhile?" (2) "Is this purpose achieved?" (3) "Do you benefit by these bulletins and wish them continued?"

Replies were classified and a report prepared containing excerpts from comments This was made available to members of the Council A total of 451 replies were received, 389 favorable, 38 unfavorable, and 24 qualified or doubtful

These bulletins of various types form a cross-section of public relations activities, and the replies to the questionnaires are illuminating on the basic question of general approval of public relations as well as the special manner of presenting its principles by means of these publications The essence of the preponderant point of view expressed was that these bulletins are widely used, that the purpose is worthwhile and is satisfactorily achieved, and that all but a very few of the recipients wish them continued, the majority expressing themselves in no uncertain terms on the latter point Mimeographed copies of the complete report are available in the Secretary's office

The Public Relations Bureau has continued the issuance of the Speaker's Service Bulletins, which have appeared as follows since the last Annual Meeting

September 10, 1938 (No 21), "Patients Also Treat Doctors", October 20, 1938 (No 22), "Group Health Associations", December 10, 1938 (No 23), "Outline for Talk on Pneumonia", December 28, 1938 (No 24), "Editorial Comment", January 17, 1939 (No 25), "Second Edition—On The Witness Stand", January 25, 1939 (No 26), "Guard Against Syphilis", February 15, 1939 (No 27), "Has Your Congressman Heard from You?"

The pamphlet, *On the Witness Stand*, written by J Preston Walch and published two years ago by the Society, was revised and published again, appearing

on January 13, 1939 Within six weeks after publication 20,000 copies have been supplied to various state and county societies throughout the country The revision was undertaken because of the rapidly spreading public interest in "Socialized Medicine." Furnishing information to the public on this subject has been one of the principal activities of the Public Relations Bureau, requests for these releases and printed material have come from many sources within the state and from every section of the country

*Directory*—In accordance with the instructions of the House at its 1938 session, the edition of the directory which would otherwise have appeared at the beginning of this year has been omitted

## Part V

### Annual Meeting Arrangements

The Council this year directed its three committees on Arrangements, Scientific Program, and Scientific Exhibits to act in concert as a Scientific Assembly Committee, each, however, carrying out its own separate function

Dr Albert F R. Andresen, Chairman of the Scientific Program Committee, and the chairmen of the Sections and Sessions have arranged the scientific program. In accordance with the instructions of the House the new section on gastroenterology and proctology came into being with the following officers: Albert F R. Andresen, M D, *Chairman*, Brooklyn; Harry C. Guess, M D, *Vice-Chairman*, Buffalo; John L. Kantor, M.D., *Secretary*, New York.

Dr William A. Krieger has again served as chairman of the Committee on Scientific Exhibits, and Dr H. Walden Retan, of Syracuse, has had charge of the arrangements for the annual meeting To the general manager was assigned the task of general chairmanship of the combined committees directing the scientific assembly

*Technical Exhibits*—To Dr A. L. Loomis Bell, of Brooklyn, member of the Business Division of the Publication

Committee, has been assigned the task of selling space at the annual meeting for technical exhibits This arrangement makes unnecessary the employment of an outside agent on commission

*A Walter Suiter Lectureship*—By his last will and testament Dr A. Walter Suiter of Herkimer, New York, President of the Medical Society of the State of New York in 1892, directed that out of his residuary estate, upon the death of his sister, Mary Grace Suiter, certain bequests be paid to a number of institutions including the Medical Society of the State of New York, Union College, the New York Academy of Medicine, and the University of Michigan

Each of these four beneficiaries was to have received \$6,000, but the funds found available at the time of the recent Surrogate Court proceedings has amounted actually to only \$2,450.32 This amount has been placed in a special fund set out to carry out the purpose of the bequest.

The will specifically directed that the gift to the Society was for the purpose of establishing a lectureship to be known as the A. Walter Suiter Lectureship of the Medical Society of the State of New York. By the terms of the will the lecturer is to be designated by a committee, to be selected by the Society, which must determine the subject of the lecture to be delivered annually before the "regular general meetings of the Society." The lectures are to be on subjects relating to medical science, to become the property of the Society, and to be published

Arrangements have been made for the 1939 meeting Dr Francis Carter Wood has been chosen and has consented to deliver the first lecture which will be before the General Session on Thursday afternoon The title is to be "The Early Diagnosis of Cancer"

The Council is happy to report that Dr Wood has graciously proposed that whatever honorarium would have been set be retained in the fund. This suggestion has been gratefully accepted

## In Memoriam

### Dr Frederick H. Flaherty

The Council on October 13, 1938, by a rising unanimous vote, spread the following Memorial Resolution on its minutes

The Council takes this opportunity to express formally its sense of loss in the death of Doctor Frederick H. Flaherty, of Syracuse, New York, former President of the Medical Society of the State of New York.

Among such close associates, there is no need to extol the activities of Doctor Flaherty, his achievements, which are so well known to us, will remain a permanent record. His surgical career began during his early professional life, and he attained eminence which was recognized both by his confreres and the public at large. He was always devoted to whatever was best for the medical profession.

He held every position which it was possible for one to occupy in Organized Medicine, culminating in his election as President of our State Society.

In addition to his hospital and private practice activities, he had been Professor of Clinical Surgery at Syracuse University and, at the time of his death, was Professor-Emeritus. He had been a Member of the Grievance Committee of the Board of Regents since its organization.

Although he never occupied public office, he was frequently consulted and willingly served in matters of civic interest.

Doctor Flaherty detested sham, deceit, and dishonesty, and admired only frankness and integrity. However, he was tolerant and readily overlooked the foibles of his friends.

To us, his close associates, he will be long remembered as a generous and loyal friend.

### M.D. License Plates

In accord with the resolutions of the House, negotiations with the Bureau of Motor Vehicles were carried on to final success in the late summer of 1938.

Practicing physicians throughout the state who desired special license plates bearing the designation "M D" for 1939 were asked to apply to the Secretary of the County Medical Society where they resided or had their principal office, and thus have accorded to them for the first time this distinct privilege. This work was under the direction of Dr August J. Hambrook's Committee on Public Rela-

tions and Economics, together with Dr David J. Kaliski of the Workmen's Compensation Bureau. No applications were made direct to the Bureau of Motor Vehicles, but to the County Medical Society Secretary whose certification of the names was an essential part of the procedure. The names thus submitted were transferred to the New York office of the State Medical Society, and after being checked were sent to the Commissioner of the Bureau of Motor Vehicles. The commissioner mailed official application blanks to each doctor, who filled them out and returned them according to directions. The "M D" plates were then mailed direct to the doctor from the Albany office of the bureau. It is hoped that these special "M D" license plates accorded the physicians of the state will obviate difficulties occurring in the past, and will accord the doctor, when in the performance of his professional duties, less inconvenience.

### New York State Board Nominations

The State Society during the year was formally requested by state departments to make nominations to fill vacancies. In each instance alternates were also asked for and nominated.

To fill the vacancy on the Grievance Committee of the New York State Department of Education created by the death of Dr Frederick H. Flaherty, the Council nominated Dr George B. Broad, of Syracuse, with as alternates Dr William D. Johnson, of Batavia, and Dr Frederick M. Miller, Sr, of Utica.

To succeed himself as a member of the Grievance Committee of the New York State Department of Education, the Council nominated Dr Moses Keschner, of New York, with as alternates Dr Nathan B. Van Etten and Dr Chas. Gordon Heyd, also of New York.

To succeed himself on the New York State Board of Examiners of Nurses, the Council nominated Dr Paul G. Taddiken, of Ogdensburg, with as alternate Aloney L. Rust, of Malone.

To succeed himself as a member of the New York State Board of Psychiatric

- 1 The base rate has been reduced to \$28 00
- 2 A sliding scale of reduction has been made in rates for all limits of insurance in excess of the minimum.
- 3 The surcharge for x ray therapy has been reduced from \$40 00 to \$30 00, making a minimum rate to include that specialty \$58 00 instead of \$70 00 as heretofore
- 4 Members desiring protection on account of x ray therapy **ONLY** may now have their certificates so endorsed and issued at the surcharge rate only
- 5 Protection on account of temporary substitutes, permanent assistants, and licensed or specially qualified technicians has been included in the base policy without additional charge, provided that medical substitutes and assistants are members of the State Medical Society and individually insured under its master policy
- 6 Limit No 1 in the amount of insurance has been changed to apply to any one suit or claim regardless of the number growing out of any one cause or action This is a return to the former provision of the policy contract.

- 7 The exclusions on account of unlawful acts have been combined in one paragraph and the wording changed so as to indicate clearly that they apply only when it has been established that an unlawful act has been committed and not to a mere allegation of such an act. This has always been the intent and it has always been so construed, therefore, this change is only a clarification of phraseology
- 8 The exclusion on account of the use of x-ray therapy has been extended to include the detailed prescription of x-ray therapy dosage for some other person to carry out
- 9 Heretofore, the policy, as it applies to any one Assured, has been noncancellable except for nonpayment of premium or failure of an Assured to maintain in good standing his membership in the State Society. In addition, there has been added a provision that a certificate may be cancelled at any time at the request of the Assured upon the customary short rate basis

The importance of these changes is far reaching and promises well for the future. The rate reductions alone will save nearly \$40,000 a year in the bill which members pay for malpractice indemnity and defense. It may be more important, however, to stress the point that members will now be able to increase the amount of their protection under a broader form of coverage without increase in cost. This view will not escape the consideration of prudent members who have watched with apprehension the growing size of suits and the tendency of all juries to return higher verdicts.

It is sometimes asked why the Society has a Group Plan of indemnity and defense and why members are not encouraged to buy their protection as individuals from any company willing to insure them. The older members know the answer to that, of course. But next May the Group Plan will be eighteen years old and during those years a whole

generation of men and women have grown up and come into the practice of medicine, having no knowledge whatever of the chaotic conditions immediately following the war which finally impelled the State Society to take command of the situation in this state. So, for the benefit of the younger members coming into the Society, this question should be answered clearly at least once every year.

Briefly stated, the system of individual buying of malpractice protection from freely competing insurance companies and having to deal individually with those companies, proved a complete failure in New York State after a long and untrammelled test. It failed to provide doctors with competent and satisfactory legal defense. It failed to maintain the cost of indemnity and defense within the reach of the average member. It failed to provide a united and effective check to the constantly increasing threat of malpractice claims. And it denied organized medicine an opportunity to exert its influence upon the trend of events or to intervene with the companies when necessary to protect the interests of its members.

Medical men had learned from bitter experience that, in a malpractice action, expert legal defense for the protection of their professional standing and reputation in their communities is usually far more important than the amount of money at stake. While the insurance companies had the facilities for supplying indemnity, none of them had attorneys with sufficient medicolegal experience or possessing enough knowledge of medicine or its practice to furnish expert and competent defense. On the other hand, the State Society has developed the most expert and successful legal defense to be found any place in the country, but had no facilities for supplying indemnity. Obviously, some plan for bringing these two services together in one undertaking was the logical solution.

The Society took the initiative and worked out all of the details of such a combination to be operated under the

supervision and control of the Society. It became known as the Society's Group Plan of Malpractice Indemnity and Defense and was put into operation on May 10, 1921. It was a unique, astute, and timely action which immediately cured the intolerable conditions which existed at that time, and has prevented a return of them.

During the years which have intervened since its organization, it has supplied, through the legal counsel of the Society, the most competent and able legal defense available in the country. It has prevented high rates, and saved members a total of over a million and a half in premiums for minimum policies alone. It has provided a united front to combat unjust malpractice suits or claims and is effectually educating the suing

public and its attorneys to the understanding that they must have sound and honest claims before they can hope to translate them into money damages through the courts. In fact, without this united front no company would or could afford to insure the members of the State Society. Last but not least, it has helped to support and has made possible the continuance of free malpractice defense of uninsured members. Certainly no activity of the Society is more worthy of the active support of every member.

In publishing to the Society the new rates and coverage which will be available beginning January 1, a word of appreciation should be said on behalf of the Yorkshire Indemnity officials whose co-operation and assistance have made the changes possible.

---

## Report of the Treasurer

*To the House of Delegates*

*Gentlemen*

The accompanying statement, taken from the auditor's report, presents in detail the financial transactions for the last calendar year. An analysis of the same, together with other items, will be included in a supplementary report by the Treasurer, which will be ready for

distribution at the time of the Annual Meeting

The Treasurer desires to acknowledge his appreciation of the co-operative and sympathetic attitude of the Board of Trustees, and likewise of the industry and devotion of the members of the office staff

(Signed) GEO W KOSMAK, M D  
*Treasurer*

## Auditor's Statement

We have made an examination of the balance sheet of the Medical Society of the State of New York, as of December 31, 1938, and of the statement of fund additions and deductions and the capital statement for the year then ended. In connection therewith, we examined or tested accounting records of the Society and obtained information and explanations from employees of the Society. We also made a general review of the accounting methods and of the income and expense accounts for the year, but we did not make a detailed audit of the transactions.

The scope of our examination, in accordance with instructions issued to us by the Society, did not embrace the auditing of expense vouchers and invoices in support of disbursements. The division of assets, liabilities, income, and expenses, by funds, is included herein as shown by the books of account without our examination of the minutes of the

Society and other related records, which were not made available for our inspection. Neither were we advised of the dates of creation, purposes, and/or restrictions of the various funds.

Based upon such examination as described above, the accompanying balance sheet and related statement of fund additions and deductions and fund capital, in our opinion, fairly present, in accordance with accepted principles of accounting consistently maintained by the Society during the period under review, its position at December 31, 1938, and the results of its operations for the year then ended.

WOLF AND COMPANY  
*Certified Public Accountants*

Dated at New York, New York,

January 20, 1939

## REPORT OF THE TREASURER

Balance Sheet, December 31, 1938

| Assets                                     |              |              |              |
|--|--------------|--------------|--------------|
| General Fund                               |              |              |              |
| Current Assets                             |              |              |              |
| Cash—                                      |              |              |              |
| Office Fund                                | \$ 38 17     |              |              |
| On Deposit—                                |              |              |              |
| Regular Funds                              | 15 528 01    |              |              |
| Savings Banks                              | 4 072.00     |              |              |
| Publications Account                       | 10 000 00    | \$ 30 530 14 |              |
| Securities—At Quoted Market Value—         |              |              |              |
| Stocks                                     | \$ 60 383 82 |              |              |
| Bonds and Mortgages                        | 106 662.25   |              |              |
| Accrued Interest on Bonds etc              | 2,307 44     | 238 352 51   | \$268 891 05 |
| Inter-Society Account                      |              |              |              |
| Due from Publications Account              |              | \$ 119 54    |              |
| Prepaid Value                              |              |              |              |
| Annual Meeting Expense—1939                |              | 117 00       |              |
| Fixed Asset                                |              |              |              |
| Furniture and Fixtures—at Memorandum Value |              | 1 00         | 237 54       |
| Lucien Howe Prize Fund                     |              |              |              |
| Current Assets                             |              |              |              |
| Cash—                                      |              |              |              |
| On Deposit in Savings Bank                 |              | \$ 1 085 74  |              |
| Securities—At Quoted Market Value—         |              |              |              |
| Bonds                                      | \$ 2 081 04  |              |              |
| Accrued Interest Thereon                   | 14 43        | 2 096 07     | 3 781.81     |
| Merritt H. Cash Prize Fund                 |              |              |              |
| Current Assets                             |              |              |              |
| Cash—                                      |              |              |              |
| On Deposit in Savings Bank                 |              | \$ 450 05    |              |
| Securities—At Quoted Market Value—         |              |              |              |
| Bonds                                      | \$ 1 309 14  |              |              |
| Accrued Interest Thereon                   | 7.30         | 1,316 50     | 1 767 45     |
| Recouping Fund                             |              |              |              |
| Cash on Deposit                            |              | \$ 610.39    |              |
| Securities—At Quoted Market Value—         |              |              |              |
| Bonds                                      | \$ 12 582 50 |              |              |
| Accrued Interest Thereon                   | 197.91       | 12 780 41    | 13 396.80    |
| Total Assets All Funds                     |              |              | \$288 075.25 |
| Liabilities and Capital                    |              |              |              |
| General Fund                               |              |              |              |
| Current Liabilities                        |              |              |              |
| Accounts Payable—                          |              |              |              |
| Accrued Social Security Taxes              | \$ 1 012 71  |              |              |
| Inter-Society Account                      |              |              |              |
| Due to General Fund                        | 119 54       | \$ 1 132.25  |              |
| Deferred Income                            |              |              |              |
| Dues for year 1939 received in advance     |              | 3 975 00     |              |
| Capital Account                            |              |              |              |
| Fund Capital                               |              | 204 021 94   | \$209 129 19 |
| Lucien Howe Prize Fund                     |              |              |              |
| Capital Account                            |              |              |              |
| Fund Capital                               |              |              | 3 781.81     |
| Merritt H. Cash Prize Fund                 |              |              |              |
| Capital Account                            |              |              |              |
| Fund Capital                               |              |              | 1 767 45     |
| Recouping Fund                             |              |              |              |
| Capital Account                            |              |              |              |
| Fund Capital                               |              |              | 13,396.80    |
| Total Liabilities and Capital All Funds    |              |              | \$288,075.25 |



**Statement of Fund Additions and Deductions for Twelve Months  
Ended December 31, 1938**

|   |              |                     |
|---|--------------|---------------------|
| <b>General Fund—Additions</b>           |              |                     |
| Annual Dues Received                    | \$157,674 00 |                     |
| Clerical Work                           | 7 00         |                     |
| Interest Received from                  |              |                     |
| Bonds, Mortgages, etc                   | \$ 6,776 03  |                     |
| Deposits in Savings Banks               | 417 47       |                     |
|   |              | 7,193 50            |
| Dividends Received                      |              | 3,052 50            |
| Increase in                             |              |                     |
| Quoted Market Value of Securities       |              | 5,413 40            |
| Accrued Interest on Bonds and Mortgages |              | 106 96              |
| Net Additions—General Fund              |              | <u>\$173,447 36</u> |
| <b>General Fund—Deductions</b>          |              |                     |
| Rent                                    | \$ 2,600 00  |                     |
| Telephone                               | 349 91       |                     |
| Postage                                 | 379 44       |                     |
| Stationery and Printing                 | 1,093 48     |                     |
| Auditing                                | 500 00       |                     |
| Custodian Fees (Securities)             | 246 00       |                     |
| Office and Sundry                       | 1,473 88     |                     |
| Workmen's Compensation Insurance        | 48 00        |                     |
|   |              | \$ 6,890 71         |
| Traveling                               |              |                     |
| A.M.A. Delegates                        | 3,748 20     |                     |
| Council                                 | 2,407 60     |                     |
| General                                 | 1,870 58     |                     |
| President                               | 1,697 42     |                     |
| Secretary-Manager                       | 995 91       |                     |
|   |              | 10,719 71           |
| Committees of the Council               |              |                     |
| Council Committees                      | 3,019 96     |                     |
| Public Health and Education             | 5,179 62     |                     |
| Committee on Medical Care               | 123 88       |                     |
|   |              | 8,323 46            |
| Salaries—General                        | 19,179 00    |                     |
| Emeritus Office Manager                 | 3,000 00     |                     |
| Secretary-Manager                       | 12,000 00    |                     |
|   |              | 34,179 00           |
| Executive Officer—Salary                | 10,000 00    |                     |
| Expenses                                | 1,180 32     |                     |
|   |              | 11,180 32           |
| Legal Counsel—Retainer                  | 12,000 00    |                     |
| Expenses                                | 549 68       |                     |
|   |              | 12,549 68           |
| Public Relations Bureau                 |              |                     |
| Expenses                                | 17,630 21    |                     |
| Less Sale of Pamphlets, etc             | 1,024 44     |                     |
|   |              | 16,605 77           |
| Workmen's Compensation Bureau           |              |                     |
| Salary                                  | 5,000 00     |                     |
| Expenses                                | 3,391 28     |                     |
|   |              | 8,391 28            |
| Legislative Bureau                      |              | 7,959 88            |
| District Branches                       | 1,598 03     |                     |
| Special Appropriation                   | 250 00       |                     |
|   |              | 1,848 03            |
| County Secretaries Conference           | 700 00       |                     |
| Social Security Taxes                   | 2,503 03     |                     |
| Expense Incident to Change of Method of |              |                     |
| Publication of Journal and Directory    | 4,688 52     |                     |
| Journal Planning Committee              | 117 90       |                     |
| Committee on Maternal Welfare           | 50 00        |                     |
| Restoration of Old Photographs          | 21 50        |                     |
|   |              | 8,080 95            |
| Publications                            |              |                     |
| Cost of Journal                         | 14,506 17    |                     |
| Cost of Directory—Balance of 1937       | 1,687 28     |                     |
|   |              | 16,193 45           |

|   |             |             |              |
|---|-------------|-------------|--------------|
| Decrease in—                                  |             |             |              |
| Loss on Sale of Securities                    | \$ 1 028.55 |             |              |
| Publications Account                          | 119.54      |             |              |
| Donation—Establish Recouping Fund             | 13 000.00   |             |              |
|   |             | 14 148.09   |              |
|   |             |             | \$150 870.33 |
| Deduct  |             |             |              |
| Net Gain on Annual Meeting—                   |             |             |              |
| Proceeds from Exhibits and Dinner—            |             |             |              |
| Year 1938                                     | 29 700.96   |             |              |
| Porter Service—Year 1937                      | 207.60      |             |              |
|   |             | 29 908.56   |              |
| Less  |             |             |              |
| Expense—Year 1938                             |             | 20 637.03   |              |
|   |             |             | 3 271.53     |
| Net Deductions—General Fund                   |             |             | \$153 508.80 |
| Excess of Income over Expenses—General Fund   |             |             | \$ 10,848.50 |
| Lucien Howe Prize Fund                        |             |             |              |
| Additions                                     |             |             |              |
| Interest Received from—Bonds                  | \$ 109.69   |             |              |
| Deposits                                      | 21.02       |             |              |
|   |             | \$ 130.71   |              |
| Deductions                                    |             |             |              |
| Prize Awarded                                 | 100.00      |             |              |
| Decrease in Quoted Market Value of Securities | 70.62       |             |              |
| Accrued Interest on Bonds                     | 59          |             |              |
|   |             | 171.21      |              |
|   |             |             | -40.50       |
| Merritt H. Cash Prize Fund                    |             |             |              |
| Additions                                     |             |             |              |
| Interest Received from—Bonds                  | \$ 42.19    |             |              |
| Deposits                                      | 8.40        |             |              |
|   |             | \$ 50.59    |              |
| Deductions                                    |             |             |              |
| Decrease in Quoted Market Value of Securities | 30.63       |             |              |
| Accrued Interest on Bonds                     | 58          |             |              |
|   |             | 31.21       |              |
|   |             |             | 19.38        |
| Recouping Fund                                |             |             |              |
| Additions                                     |             |             |              |
| Interest Received from—Bonds                  | \$ 275.00   |             |              |
| Increase in Quoted Market Value of Bonds      | 151.25      |             |              |
| Donation from General Fund                    | 13 000.00   |             |              |
|   |             | \$13 426.25 |              |
| Deductions                                    |             |             |              |
| Decrease in Accrued Interest                  |             | 29.45       |              |
|   |             |             | 13,396.80    |
| Excess of Income over Expenses—All Funds      |             |             | \$33,224.24  |

---

### Journal Account for Twelve Months Ended December 31, 1938

---

|                              | Expenses    |              |
|------------------------------|-------------|--------------|
| Journal Management Committee |             |              |
| Salary                       | \$ 3 000.00 |              |
| Expenses                     | 3,201.86    |              |
| Cost of Publication          | 8,304.81    |              |
| Total Cost of Journal        |             | \$ 14 506.17 |

Respectfully submitted  
 GEORGE W. KOSMAK Treasurer

## Report of the Board of Trustees

### *To the House of Delegates*

#### *Gentlemen*

The financial problems of the Society have required close attention this year. The social influences of the tragic era in which we live may increase administrative expense. The readjustments of economics affect the value and income of our investment principal. We must not forget that the tragic era influences the profession of medicine in many ways. We must keep in mind that democracy and American economics are bound together and that organized medicine cannot permit only theorists to reform the methods of medical care, even if it takes more of the Society's money than expected.

The ratio of expenditures to income has been narrowing for more than five years. While expenditures have been increasing 30 per cent, the income has increased 10 per cent. We are spending faster than the increase in membership.

The world has changed. Apparently society has changed faster than the necessary conservatism of the profession. Medicine in its relation to modern society must be given real thought. The good that we are getting out of our activities must be considered. Nothing is static. Every member should carefully avoid seeing the problems of medicine only through his own glasses. If medicine is at the crossroads, its course must be directed and effort made to place the doctor in proper position in any service scheme that may be finally established.

Therefore, the House of Delegates should be thoughtful in adopting resolutions involving financial support.

### **Three Divisions of the Trustees' Work**

**1 *The Usual Appropriations for Administrative Functions***—These, as you know, follow recommendations of the Council based on the studies of its Finance Committee. The Trustees request the Council to be explicit in its reasons for recommending expenditures. Too little explanation frequently ac-

companies recommendations. It is not easy to economize in the administrative expense. The central office is the boiler room. It will not do to let the pressure down too much. However, waste can be controlled, efficient principles of administration established, and activities dropped if they are not doing good.

**2 *Unusual Expenditures***—These were illustrated this year by the problems of the JOURNAL, beginning with recommendations of the Council that the contracts be renewed, later, the request of the Council that the Trustees negotiate with the publisher until they reached an agreement that they were willing to sign, and, finally, the need of consulting-counsel, audits, and a settlement. All extra budgetary appropriations come under this heading. They are initiated by the Council.

**3-A *The Management of the Investment Principal***—

**3-B *Consideration of Financial Problems Directed by the House of Delegates***—An illustration this year is the mandate of the 1938 House of Delegates that the Trustees critically analyze the expenditures of the last five years, and the benefits accruing, and make recommendations to the 1939 House of Delegates. This story is incorporated in the Trustees' Report.

### **Authority of Trustees to Make and Execute Contracts**

The Trustees ask favorable considerations on the amendment to Chapter 5, Section 2, to insert the sentence "The Board of Trustees shall make and execute all contracts for the Society." The Trustees have found that contracts are potentially dangerous instruments and that agreements for the renewal of contracts are especially pernicious.

### **Audits**

An audit is an instrument of control

It should not be limited to a statement of data given. Auditors should be furnished copies of minutes and comparable records that involve expenditures. A joint statement was recently made by the American Institute of Accountants and the New York Society of Public Accountants, expressing the opinion that auditors in business should be chosen by the stock holders of every institution instead of by the management. This brings to mind again the statement that an audit is an instrument of control. The Trustees see that auditors assume a large responsibility in auditing the books of any organization, and they recommend that they be given copies of all resolutions of the House of Delegates involving directly or remotely the expenditure of money, and that their work should not be limited to the papers that our officers may hand them. The Trustees in making this statement are mindful of the fact that they are Trustees of a professional organization and not a purely business organization, but the financial affairs of the State Society are increasing in importance from year to year and if it meets its problems, it will only come about by competent financial administration. Keep in mind that for several years there has been a relatively increasing expenditure to income. The time is near when we may have to select important activities from among the list of activities. Keep in mind that an audit is an instrument of control. There is a beginning tide of opinion among the membership regarding the relative importance of different activities. The Trustees hope that hard thinking about the relation of our expenditures to income and the need of increasing our reserves will not be too painful for clear action. The Trustees have in mind definite principles of fiscal administration that will let us live within our means, keep our investment principal growing, and not diminish essential activities. The Trustees see the danger of too much optimism, and they express the hope that the House of Delegates may catch the meaning of an ever-spending program and of the

danger of a narrow balance at any time when an extra budgetary demand becomes imperative. An illustration is found in the experience of the last year when \$5,000 was needed to successfully terminate the claims which the publisher of the JOURNAL had submitted to the courts.

Let us become introspective enough to face the situation in our spending. The Trustees are impressed with the liberality with which recommendations for appropriations are made without always equal thought of how they are to be paid for. While there has always been opportunity for constructive study in the relation of cost to activities, it has grown less in recent years. There is always a way out, and the Trustees have not lost sight of the fact that there is enough fiscal philosophy and statesmanship in the House of Delegates to advise in fiscal affairs, so as to carry on all the essential parts of our activities without having to provide for an increased income.

### Fiscal Adviser

The Trustees have directed the Treasurer to employ a fiscal adviser to aid both the Treasurer and the Investment Committee in the management of the Society's investment principal and to better understand when to buy and when to sell. No investment account should remain static in these days of worldwide financial change. An investment principal should not be allowed to get out of line with changing world conditions. Technical advice is needed to establish proper diversification, to determine the desired period of maturities, to avoid optimism regarding appreciation, to avoid too much attention to income, and to think first and at all times of soundness of principal. This service costs \$300 a year and is paid for from the income of the fund.

### Compensation Bureau

What is the opinion of the results of the Compensation Bureau's administration through all parts of the state? Is it

rendering the service needed? Is it as satisfactory in areas outside of the Metropolitan District as it is in the Metropolitan District?

The cost of the Compensation Bureau in

1935-1936 was \$2,140 00

1936-1937 was \$6,900 00 (that year the Director was placed on a salary of \$5,000 a year)

1937-1938 was \$7,700 00 (due largely to increased clerical work)

1938 was \$8,391 28 (for the period Jan 1, 1938 to Dec 31, 1938)

In general, half of their expense is paid by the New York County Medical Society, the other half by the State Society

The Trustees ask your opinion as to whether the Compensation Bureau as now set up is satisfactory to the entire membership

### Offices

The Trustees see the opportunity for economy, efficiency of administration, convenience of access, and a saving of time to be had from a centralization of offices on one floor and as near the Grand Central Station as possible

The Society now pays \$4,200 a year for rent. Offices are located on the second, fourth, and sixth floors of the Academy of Medicine. More room is needed for the JOURNAL office. Some study has been given this during the year. The Trustees recommend that the House of Delegates think this over and tell us what they would like to have done

### Maintaining a Balanced Budget

There is a steady approach to an unbalanced budget based, the Trustees believe, on the same sort of emotionalism in spending money that is going on throughout the world today. It is plain to the Trustees that if the present trend of expenditure continues, income must be increased by raising the dues. This the Trustees think should not be done. If this is not done, the Trustees may have to adopt the principle of cutting all ex-

penditures at a uniform rate so as to keep within income. The number and size of committees are major factors in unbalancing a budget. All committees cost money. The number of committees in 1937 were 31, with 108 members. The number of committees in 1938 were 13, with 49 members. It is not always that the number of committees or the size of committees determines the efficiency of administration. There have been throughout the year, as always, a few examples of thoughtless spending. There has grown up in the State Society a loose financial system. The Trustees have therefore set up a uniform voucher system. This voucher must state the service rendered and the expense incurred. All bills from within the Society must now be made out on this form.

The Trustees have been lenient. They have paid bills and advised those rendering them not to set a precedent, requesting that it should not happen again. The Trustees will not pay bills in the future unless authorized in advance by recommendation from the House of Delegates or the Council, and with the approval of the Trustees. The custom of the President of entertaining his officers and friends has gradually been shifted to an obligation of the Society. The Trustees have paid these bills under protest and hope in the future to be relieved of an unpleasant situation. The Trustees ask the Society how far it wishes to go in bearing the expense of officers in attendance at unofficial meetings.

At the present time only the President is allowed a per diem of \$15 when engaged in official business. All officers are allowed traveling expenses when engaged in official business. Traveling expenses have been interpreted as railroad fare and hotel bills. Does the Society desire to establish a per diem in lieu of expenses other than railroad fare?

### Directory

The experience of omitting the Directory for the year 1938 has been satisfactory and without real complaint. It has

saved more than \$10,000, and this money is needed for other purposes. The Board of Trustees recommends that its publication be omitted for the year 1939 and that the Trustees be directed to study the feasibility of purchasing the New York Section of the American Medical Association Directory and issuing it in pamphlet form to our members at the same intervals as the A. M. A. Directory is issued.

### District Branches

The Trustees ask the House of Delegates to comment upon District Branches exceeding their appropriations.

### A Few Facts from the Auditor's Report

The dues collected in the year ending December 31, 1938, were \$157,674.00 (including arrears). The cost of administering the Society in the year 1938 was \$139,450.71. Of this amount, \$3,271.53 came from a net gain on the 1938 annual meeting, and this probably will not hold at meetings held elsewhere than in New York City. Without this item the cost of operating the Society for the year 1938 was \$142,722.24. This leaves apparently a balance of \$14,951.76. This does not take into account the extra budgetary expenses, one item of which was defense of the legal claim of the publisher of the JOURNAL. This amount was \$4,688.52. At almost every meeting of the Board of Trustees there are requests for extra budgetary appropriations. For example, at the June 6, 1938 meeting, extra budgetary items to the amount of \$1,040.79 had to be approved. Adding this one alone to the item mentioned of \$4,688.52, gives a total of \$5,729.31.

This is not intended as a complete statement of extra budgetary expenses but it will serve to show the House of Delegates how near operating expenses may come to income from dues, and keep in mind that the dues were nearly \$5,000 greater in 1938 because of arrears from 1937. It may also show the need of care on the part of every officer of the

Society in order that we do not run into the red or dip into our investment principal. The need of building the investment principal by at least its total income each year is imperative.

The gain in our respective funds in 1938 of \$33,224.24 is due to the collection of dues in arrears from 1937, to market appreciation of the investment principal, to interest and dividends on our investment principal, and to the recouping fund set aside last year.

May the Trustees, for the sake of emphasis, call to your attention again the fact that the minutes of the Society and related records have not been available for inspection by the auditors, and it seems to the Trustees that the complexity of our financial structure is so great that the auditors should be furnished all records.

The interest and dividends from the investment principal for 1938 were \$9,070.75. Income from Savings Banks, \$417.47, Lucien Howe Prize Fund, \$130.17, Merit H. Cash Fund, \$50.49, Recouping Fund, \$275.00. Total \$10,843.88.

The Society has \$70,225.13 invested in stocks in thirteen companies. The market depreciation in value of these is about 9 per cent. The Society has \$189,793.58 invested in bonds. The market depreciation of these is about 11 per cent. Further details will be found in the auditor's report, in the Treasurer's report, and in the Treasurer's supplementary report, and, if necessary, in a supplementary Trustees report.

We repeat that the income from dues in the year 1938, including arrears for 1937, was \$157,674.00. The cost of operating the Society for the year 1938 was \$155,644.16 (including the JOURNAL and Directory), leaving a balance of \$2,019.84. In other words, we spent in operating the Society all of our income, except \$2,019.84 (leaving out of account, of course, the income from our respective funds, dues collected in 1938 which were arrears from 1937, and market appreciation of our respective funds).

The depreciation in the Society's in-

vestment principal including its trust funds was, on December 31, 1937, \$35,523 76 On December 31, 1938, it was \$30,060 36 This means that there was an increase in market value of \$5,-463 40 in the year 1938

The Society owns \$25,125 00 of defaulted bonds The interest lost on these bonds since their default up to December 31, 1938, is \$5,051 17 A problem that must be worked out by the Treasurer and Trustees with our fiscal adviser is whether to sell these bonds and invest the receipts in interest-bearing securities at the present low rate or to write them down to market value and wait for appreciation, which may be long in coming, if it ever comes in the tragic financial era confronting us

The respective fund capital was \$249,-743 76 on December 31, 1937 On December 31, 1938, it was \$282,968 00 This shows a gain in all funds of \$33,-224 24 in 1938 Taken alone, the last statement is pleasing, but think deeper! There are \$25,000 in defaulted bonds and \$30,000 in market depreciation, and a trend toward a diminishing ratio between expenditure and income

The Trustees are not sympathetic with such things as revolving funds or contingent funds unless reappropriated These funds are set aside for contingencies and should not be used except upon recommendation by the Council and specific approval by the Board of Trustees Otherwise, they may be just invitations to spend Last year the Society set aside \$13,000, \$7,000 to be used to advance our investments toward purchased value and \$6,000 to be used for any extra budgetary expenditures, but not to be used unless needed We report that the \$13,000 has been all used to help to restore our investment principal The direction of the House of Delegates diminished the available funds for budgeting for administrative purposes We are able to report that the Society has lived within this restriction

For the sake of clarity and information the Trustees attach a narrative statement of expenses and income for the year

July 1, 1937, to July 1, 1938 (See opposite page) This gives a different picture than the calendar year January 1, 1938, to December 31, 1938, would give

Now, let us look deeper and think in the period January 1, 1937, to January 1, 1938 "Excess" is from income of the Society's respective funds, \$10,843 88 (which is not to be spent), and from market appreciation of investments, \$5,-463 40 (as of December 31, 1938), but the latter is only a "paper profit" This totals \$16,307 28 Deducting this figure from \$17,539 51 (Excess of Income over Expenses) we have \$1,232 23 Let these figures sink in! Again, the Trustees ask that every officer be careful in spending money

### Journal

The Board has been engaged in a year-long negotiation with the publisher of the JOURNAL and Directory and his counsel

This involved many conferences, interpretations of audits, the implications of sworn statements of circulation greater than the Society's membership, the quality of advertising, the ethics of medicine in its relation to the public, a knowledge of contracts, legal defense, and a settlement after months of work

The JOURNAL was published by contract from January 1, 1934, to December 31, 1938, a period of five years The Society paid fifty cents per member and about fifty cents per member more to maintain the activities of the Journal Management Committee, and the publisher made as much profit as he could from advertising, sale of reprints, and use of complexities of the printing and publishing industry The publisher claimed a loss each year until about the end of the fourth year Then he asked an increase of about 100 per cent

For the first six months of 1937 the Trustees and Council disagreed as to renewing the contracts, because of increased cost and the method of "farming out the JOURNAL"

There was in existence an agreement which provided that if the publisher

## Financial Report of the Trustees

Expenses July 1, 1937 to July 1, 1938

|   |             |
|---|-------------|
| Rent (Administrative Offices)                       | \$ 2,600.00 |
| Telephone   | 454 03      |
| Postage   | 392 68      |
| Stationery and Printing                             | 999.34      |
| Contingent Fund                                     | 844 13      |
| Printing New Bylaws                                 | 150 00      |
| Custodian Fee                                       | 227.35      |
| Furniture & Fixtures                                | 569.60      |
| Auditor   | 500 00      |
| Annual Meeting                                      | 27,343 13   |
| Traveling Expenses                                  | 7 765 63    |
| General   | 1,187 45    |
| A. M. A.  | 2 431.30    |
| President   | 1,438 80    |
| Council   | 2 708 08    |
| Committees of Council                               | 4,359.30    |
| Matters Pertaining to Medical Care                  | 401.02      |
| Maternal Welfare                                    | 50.00       |
| To Confer with State Hospital Association           | 148 47      |
| Salaries  | 20,322 50   |
| Emeritus Office Manager                             | 3 000 00    |
| Counsel—Salary                                      | 12 000 00   |
| Expenses  | 489 12      |
| General Manager—Salary                              | 13 000 00   |
| Expenses  | 645 12      |
| Legislative Bureau                                  | 7 403.23    |
| Executive Officer—Salary                            | 10 000 00   |
| Expenses  | 1 154.23    |
| Medical Education                                   | 4,540.51    |
| Workmen's Compensation Bureau                       | 2 770 03    |
| Director—Salary                                     | 5 000 00    |
| Public Relations Bureau                             | 9 640 10    |
| Director—Salary                                     | 7 500 00    |
| Mr. Gardiner—Journal Publication                    | 8 112.88    |
| Journal Management Committee                        | 5 754 03    |
| Committee on Economics (Old)                        | 10.52       |
| District Branches                                   |             |
| Annual Meetings                                     | 1,358 15    |
| Postage for Mailing Programs                        | 521 59      |
| District Branch Executive Committees                | 250 00      |
| Conference of County Secretaries                    | 696 05      |
| Christmas Bonus (Inc. Legislative & Pub. Rel. Bur.) | 532 00      |
| Federal & State Social Security Tax                 | 1,790.52    |
| Dinner for Sir Henry Brackenbury                    | 78 53       |
| Notary Public—License Fee                           | 15.34       |
| Auditing Gardiner's Books                           | 225.00      |
| Harris-Dibble Co. (Report on Gardiner Setup)        | 250 00      |
| Certificate for Miss Baldwin                        | 32.00       |
| Restoration of Old Photograph                       | 10 00       |
| Delayed Bills                                       | 354 60      |
| Workmen's Compensation Insurance                    | 48.00       |
| Injured Employee                                    | 129 40      |
| Directory   |             |
| Printing & Delivery                                 | 10 789 60   |
| Stationery & Expenses                               | 75 68       |
| Postage   | 749 11      |

Total Expenses

\$170 071 \*

Receipts July 1, 1937 to July 1, 1938

|                               |             |
|-------------------------------|-------------|
| Annual Dues                   | \$151 757 1 |
| Annual Meeting                | 2 100 00    |
| Clerical Work                 |             |
| Sale of Journals              |             |
| Public Relations Bureau       |             |
| Interest on Bonds             |             |
| Dividends on Stocks           |             |
| Interest Received on Deposits |             |

Total Income

TOTAL INCOME

\$193,611 \*

TOTAL EXPENSES

170,071 \*



showed a profit and he and the Society agreed on its division, the contracts should be renewed for three years. It did not include renewal of contract for managing the technical exhibits at annual meetings.

The situation regarding unethical advertising came into serious consideration in November, 1937. You will recall the midnight debate at the last session of the House of Delegates about the Society's publishing its own JOURNAL. The publisher asked early in the year 1938 for increased compensation. The Council recommended several times by majority vote a renewal of the contracts and requested the Trustees to make an appropriation. Therefore, the Trustees laid the several recommendations on the table month by month. Finally, the Council asked the Trustees to negotiate with the publisher until they reached an agreement which they were willing to sign. Up to this time the publisher negotiated for a renewal of his contracts with several proposals for publishing at diminishing cost. About the first of June, 1938, the publisher changed his attitude and notified the Trustees by letter that he would stand on the strict legal commitments embodied in his present contract and agreement for renewal.

The publisher had shown a loss by audits every year up to the fifth year. On May 24, 1938, he submitted a letter through his attorney showing that he had made a profit up to that date in 1938, and would make a profit for the rest of 1938, and thereby under the Extension Agreement must have his contracts renewed.

The records of the negotiation cover 500 pages. Anyone may study them. They are on file. We were fortunate in having able consulting counsel. The publisher's lawyer was able. After receiving a statement from consulting counsel, concurred in by our counsel, as to the enforceability of the Extension of Contract Agreement entered into by the Society in 1935, the Trustees informed the publisher by letter as follows:

*Mr Thomas R Gardiner  
New York State Journal of Medicine  
33 West 42nd Street  
New York, New York*

DEAR SIR:

With reference to the letter of your counsel, Benjamin Shuverts, Esq., dated June 17, 1938, containing a demand that the Medical Society of the State of New York furnish you with copy for the publication of the Medical Directory of New York, New Jersey and Connecticut on or before August 12, 1938, on behalf of the Medical Society of the State of New York, I am instructed to advise you that the Society has decided to furnish no copy for said publication of the Medical Directory in accordance with the resolution of the House of Delegates of the Society, adopted May 9, 1938, to omit the publication of the Medical Directory for the year 1938-1939.

I advise that it is the position of the Society that your contract for the publication of the Medical Directory, dated June 28, 1935, has terminated upon the third publication by you of the said Directory. I hereby serve you with notice that it is the intention of the Society not to be bound by a certain "Memorandum of Agreement made the 28th day of June, 1935," between the Medical Society of the State of New York and yourself, which said agreement purports to extend both the aforesaid contract for the publication of the Medical Directory and also a contract likewise dated June 28, 1935, for the publication of the New York State Journal of Medicine.

The Society is advised by counsel that the said Memorandum of Agreement purporting to extend the two above-mentioned contracts for a further period of three years is unenforceable and creates no legal obligation binding either of the parties thereto. Accordingly, the Society takes the position that the aforesaid contract for the publication of the New York State Journal of Medicine will be terminated on December 31, 1938, said date being the expiration date provided in said contract.

Inasmuch as the Society takes the position that the Memorandum of Agreement purporting to extend the two above-mentioned contracts is unenforceable, it is of course unnecessary to submit to arbitration the question of whether or not net profits have been earned by the publication of the Medical Directory and New York State Journal of Medicine during the three-year period, 1936-1938, in accordance with the terms of the said Memorandum of Agreement. Accordingly I hereby serve you with notice that

the Society does not intend and hereby refuses to submit the determination of profits to arbitration.

Very truly yours

MEDICAL SOCIETY OF THE STATE OF NEW YORK  
WILLIAM H. ROSS, M.D., Chairman  
Board of Trustees

Notwithstanding this, the publisher brought suit on August 29, 1938. If successful this would have involved the Society to more than \$70,000.

The final chapter is summed up in a report to the Council on December 8, 1938. The Board of Trustees reported as follows:

"The negotiations with the publisher of the JOURNAL and Directory have been finally completed.

"That an agreement signed by both parties, cancels the so-called extension agreement and stipulates discontinuance by Gardiner of the action brought against the Society for a declaratory judgment on the extension agreement. This leaves the Society free without any interference or further claims from Mr. Gardiner to publish the JOURNAL.

"That the Board of Trustees considers that this settlement, which is in keeping with mandate of the House of Delegates, is entirely satisfactory and that the expense incurred is slight compared to what might have been the expense of continued law suits.

"And, that the Society now is entirely free to publish its JOURNAL and Directory from its own offices without interference."

This ends a year of effort at clear thinking and a successful ending of one of the most controversial matters ever before the Society.

The Trustees are sure that all who know the details, or who will inform themselves from the records, will agree that never again should the Society enter into a contract pertaining to an administrative function, not even for one year let alone three, and should never again execute an agreement to become effective three years later which would then extend the contracts for three years. Never

again should the Society tie its hands and give up its freedom to control its own affairs.

The new JOURNAL is before you. You will note the change in format and that its pages are easy to read.

Work is yet to be done to make its advertising large enough in volume to carry the cost. This means that someone must sacrifice time and effort enough to bring this about. Many advisers say that there is no doubt that this can be done and within ethical lines. It just requires business acumen and enough work.

### Construction Policies

The Trustees single out one policy this year and recommend to the House of Delegates its careful consideration, namely, a policy for the management of the so-called President's Dinner in connection with the Annual Meeting. If not changed, it should be discontinued, for it has grown to such proportions and expensiveness that it no longer serves its purpose.

The situation is an awkward one and it will not rectify itself. To make a distinction between upstate and downstate, or for the Society to give the dinner on one occasion and on another have it be given by an individual, is in no way beneficial to its members. For the giving of the dinner by the Society to depend upon the profits of the particular meeting is not sound policy. It lacks dignity and it puts emphasis in the wrong place for what should be a purely official gathering. An individual should not be asked to compete with the Medical Society of the State of New York in elaborateness of such a dinner. Unless he has a goodly income he cannot afford to pay several hundred dollars as the Society has spent, nor should it be made a burden that can not be borne by the ordinary man and cause him to be excluded from the presidency because of the expense, or to be embarrassed in any way. The theory that only when the money is available from the proceeds of the meeting may it be spent for a dinner is also a bad policy for

obvious reasons. The profits, if any, belong to the Society and should be accounted for and paid in to it in regular form.

The President has only minimal control over the finances of the Annual Meeting and should not be so directly interested in them. The meetings in the smaller centers may be just as valuable to the Society as in the larger ones although not as profitable financially.

Let the Board of Trustees decide whether or not we shall have an administration dinner, strictly limit the expense and declare who shall be invited. The invitation list might well be limited to the official family, ex-presidents and such distinguished guests from outside the

state as happen to arrive in time. Let it be a simple, inexpensive, and dignified, get-together meeting on the Sunday night just prior to the opening day. It should be an official function given in the name of the Society and the Committee on Arrangements should have charge of it.

Respectfully submitted,

Trustees

WILLIAM H. ROSS, M D, *Chairman*, Brentwood

JAMES E. SADLER, M D, Poughkeepsie

HARRY R. TRICK, M D, Buffalo

JAMES F. ROONEY, M D, Albany

GEORGE W. COTTIS, M D, Jamestown

February 15, 1939

## Report of the Board of Censors

*To the House of Delegates*

*Gentlemen*

On February 5, 1938, as reported to the House of Delegates, the Board of Censors of the Medical Society of the State of New York first heard an appeal by Dr. Donald R. Keller of Westhampton Beach, New York, from a decision of the Suffolk County Medical Society excluding him from membership.

The decision of the Board of Censors at that time was as follows:

Pursuant to the authority conferred on us by Section 6 of Chapter VI of the Constitution and Bylaws of the Medical Society of the State of New York, and in the interest of orderly procedure, we hold the decision appealed from should be modified to the extent that the appellant's application for membership in the respondent County Society shall still be considered open and undecided, and that the entire matter be remanded to the County Society for further action in accordance with the mandatory instructions contained in this decision.

It appears without dispute that the appellant physician duly applied for

membership in the respondent County Medical Society, his application for membership was rejected by the said County Medical Society, that the respondent County Medical Society has not submitted any stenographic data as to what took place at the meeting or meetings of the Board of Censors of the said Society, nor in lieu thereof has any résumé of these proceedings been submitted.

It appears further without dispute that the appellant was not present at the meeting or meetings of the Board of Censors, nor was he invited to be present thereat.

In remanding this matter to the County Society for further action we do so with the following mandatory instructions:

"Within one month from this date, i.e., February 5, 1938, the respondent County Medical Society shall call a meeting of its Board of Censors to which the appellant shall be invited.

"Ten days' notice of the date and place of that meeting shall be given to the appellant by registered mail.

"At such meeting the Board of Censors shall have present a stenographer so that the minutes of the meeting may be stenographically recorded

"The Board of Censors shall have present at that meeting any person or persons who wish to give proof of any alleged act or acts of the appellant which would establish his ineligibility for membership in the respondent County Society

"All witnesses shall first be sworn by a notary public, and their testimony stenographically recorded.

"The appellant shall have the right to be present at said meeting or any adjourned meeting thereof with counsel if he so desires, and the appellant or his counsel shall have the right to cross examine any and all witnesses who may appear against him

The appellant shall have the further right, if he so desires, to testify under oath and to call any witnesses on his behalf who shall also be sworn by a notary public and testify under oath.

"The Board of Censors of the respondent County Society shall have an equal right to have an attorney present, if it so desires. Such counsel or any member of the Board of Censors shall have the right to cross-examine the appellant or any witness that may be called on his behalf

"The Board of Censors shall have the right to adjourn such meeting, but such adjournment or adjournments shall not be for an unreasonable time.

"When all of the testimony both of the appellant and the respondent County Medical Society shall be concluded, the County Medical Society shall at the next regular meeting following the conclusion of the hearings aforesaid submit its report, together with all the data, to the membership of the respondent County Medical Society, and the membership shall vote thereon. In doing so, the Secretary shall first read to the members attending such meeting not only the report of the Board of Censors upon the appellant's application, but also all of the testimony taken at any hearing or hearings

We do not wish to be understood as passing on the merits of the appellant's application, but we do feel in the interests of both parties, and in the interests of orderly procedure, the matter should be disposed of in this manner "

This decision was duly transmitted to both appellant and respondent.

In due course the Suffolk County Medical Society obeyed the Board's instructions and again voted on the application of Dr Donald R Keller with the result that Dr Keller was denied membership

Dr Keller appealed from the decision excluding him from membership, and the Board of Censors of the Medical Society of the State of New York heard this appeal on February 9, 1939

There were present at this meeting Drs Irving Gray, Bertran W Gifford, Carl R. Comstock, Charles A. Earl, Reeve B Howland, Alfred B Armstrong, Louis Klostermyer, the President—Dr Terry M Townsend, the Secretary—Dr Peter Irving, Mr Lorenz J Brosnan, and Mr Thomas A Clearwater

There appeared Dr Donald R Keller, appellant, and Guy O Walser, attorney for the appellant, Dr Edwin P Kolb, Secretary, and Dr John H Nugent, Chairman of the Board of Censors of the respondent, Suffolk County Medical Society

After full consideration of the grounds for the second appeal of the records furnished by the Suffolk County Medical Society including those of the transactions in the matter following the prior appeal, the Board of Censors of the Medical Society of the State of New York came to the conclusion stated in the following decision

### Decision

On the prior appeal in this matter we modified the action of the respondent, Suffolk County Medical Society, in excluding the appellant from membership by reopening the matter and remanding it to the County Society with certain instructions as to the procedure to be followed

On this appeal we find that these instructions have been substantially complied with by the respondent, Suffolk County Medical Society, and that the appellant has been given a fair opportunity to be heard as well as an opportunity to cross-examine, through counsel, the witnesses appearing against him. In addition, Mr. Guy O. Walser, the attorney appearing for the appellant in this appeal, stated with commendable frankness that he did not wish to urge any technical grounds for reversal but requested a decision on the merits.

The Board of Censors has given careful consideration to the arguments advanced on this appeal by both parties. It has

carefully read the record which forms the basis of this appeal. Following this it has fully discussed the matters under consideration and after careful consideration by ballot taken, it has reached the conclusion by a vote of six to one (the President and Secretary not voting) that the judgment appealed from should be affirmed.

This decision was duly transmitted by the Secretary in writing to both appellant and respondent.

Respectfully submitted,  
PETER IRVING, *Secretary*

March 15, 1939

## Report of the Counsel

*To the House of Delegates  
Gentlemen*

Your Counsel herewith submits his report of activities of the Legal Department of the Medical Society of the State of New York for the period from February 1, 1938, to and including January 31, 1939.

Within the proper confines of a report of this character it is not possible to give any adequate idea of the details of the work done or the responsibility assumed by our department. A report of this character must necessarily state only conclusions. Some evidence of how busy a year we have had, both in court and in consultation in the field of litigation alone, is found in the fact that we were able to reduce the pending cases from 493 pending on January 31st of last year to 441 pending on January 31st of this year—a reduction of 52 cases, this despite the fact that during the present reporting period, 177 new actions were commenced. This has only been accomplished by the intensive and loyal co-operation of every member of my office staff.

At the outset of this report, your Counsel wishes to record his appreciation for

the assistance and co-operation furnished him by your officers and your committeemen. It is difficult for those not in close touch with the workings of your Society to realize the immense amount of work done and the responsibility assumed by your trustees, officers, and committeemen.

In making his report your Counsel adheres to the convenient category employed in previous years whereby his activities have been divided into three main divisions: (a) the actual handling of malpractice actions before courts and juries and in the Appellate tribunals, (b) counsel work with officers, committees, and individual members of the Society, and (c) legislative advice and activities.

### Litigation

In his report of the last few years your Counsel has had occasion to point out to the membership of your Society the harm done by careless, hasty, and unjustified criticism by one physician of the work of another. While it would appear that this admonition is bearing fruit, the situation in question still persists. We therefore

believe that attention should again be focused upon it. Members of your Society should remember that in these parlous times not much is needed to plant in the mind of a patient the seed of litigation against another physician.

As in the past we again call attention to the hazard of a malpractice action to a practicing physician and we again repeat that it must be remembered that the facts in any given malpractice case rest entirely in the hands of a lay jury.

Fortunately your Society has, through the operation of its Group Plan, given an opportunity to your members to adequately protect themselves against this ever present hazard. The Group Plan of insurance has operated with conspicuous success for the members of your Society for a period of eighteen years. Through it and by presenting a united front we have been able to successfully combat the forces which at one time threatened to engulf the profession in a tidal wave of malpractice actions. The success of our Group Plan is an established fact. It deserves and should receive the loyal support of every member of the Society. The practical application of the maxim, "in union there is strength," has been the reason for the conspicuous success of our Group Plan during the past eighteen years. The operation of this Plan is not a matter of guessing, speculation, or conjecture. It is predicated on eighteen years of actual experience in this field.

I have yet to meet a member of your Society sued for malpractice and not insured under our Group Plan who has not expressed deep regret that he is facing litigation without the benefits of indemnity. The expression, I meant to insure under the Group Plan but somehow I never got around to it," is something we have heard many, many times.

Commencing on the first of January of this year important changes, advantageous to the policyholders of our Group Plan, have been put into operation. These changes have already been published by the Committee on Insurance and are familiar to the members.

Mention should here be made of the splendid work of your Insurance Committee headed by Doctor Clarence G. Bandler, and of Mr. Harry F. Wanvig, your authorized indemnity representative. With these gentlemen your Counsel has conferred on a number of occasions during the reporting period.

Your Counsel wishes to record his appreciation of the splendid co-operation of the officers, agents, and employees of the Yorkshire Indemnity Company, the carrier under our Group Plan. They have demonstrated a desire to do everything to further the interests of the Group Plan and the members who have taken advantage of it.

My associates, Mr. William F. Martin and Mr. Thomas H. Clearwater, the Attorney for the Society, deserve the highest praise for the splendid work done by them. Mr. Martin's reputation in the defense of malpractice actions is well known. Eleven years of intensive experience in this highly specialized field have won for him from judges, lawyers, and doctors in all parts of the state expressions of the highest approval, not only for his ability as an advocate but for his fine personal qualities as well.

Mr. Clearwater through the years has been in close contact not only with your officers and committeemen but also with many individual members of your Society. Mr. Clearwater is a gentleman of exceptional ability and character and your Counsel feels fortunate indeed to have the benefit of his services as one of his associates.

We cannot leave this subject without paying tribute to the splendid spirit of industry, loyalty, and devotion manifested by your Counsel's entire staff, both legal and clerical.

With this preliminary statement we note that there were commenced in the present reporting period 177 actions as against 175 actions reported during the previous reporting period. These figures do not, of course, include a number of claims outstanding in which suit may ultimately be brought. Throughout the year your Counsel has been in conference

TABLE I

COMPARISON OF THE NUMBER OF SUITS INSTITUTED AND DISPOSED OF IN 1937-1938 AND 1938-1939

|   | INSTITUTED               |                          | DISPOSED OF              |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
|   | 1937-1938<br>(12 months) | 1938-1939<br>(12 months) | 1937-1938<br>(12 months) | 1938-1939<br>(12 months) |
| 1 Fractures, etc  | 17                       | 22                       | 21                       | 19                       |
| 2 Obstetrics, etc   | 12                       | 13                       | 24                       | 20                       |
| 3 Amputations   | 1                        | 3                        | 2                        | 3                        |
| 4 Burns, x-rays, etc                                      | 27                       | 22                       | 27                       | 33                       |
| 5 Operations abdominal, eye, tonsil, ear, etc             | 38                       | 41                       | 45                       | 52                       |
| 6 Needles breaking  | 3                        | 2                        | 9                        | 2                        |
| 7 Infections  | 17                       | 12                       | 19                       | 19                       |
| 8 Eye infections  | 6                        | 5                        | 4                        | 4                        |
| 9 Diagnosis   | 22                       | 17                       | 24                       | 24                       |
| 10 Lunacy commitments                                     | 2                        | 1                        | 2                        | 2                        |
| 11 Unclassified—medical                                   | 30                       | 39                       | 40                       | 51                       |
| Totals  | 175                      | 177                      | 217                      | 229                      |
| <i>Further Comparisons</i>                                |                          |                          |                          |                          |
| Actions for death   | 15                       | 17                       | 26                       | 26                       |
| Infants' actions  | 17                       | 23                       | 25                       | 27                       |
| Totals  | 32                       | 40                       | 51                       | 53                       |
| <i>How Disposed of</i>                                    |                          |                          |                          |                          |
| Settled   |                          |                          | 48                       | 55                       |
| Judgment for defendant, dismissed, discontinued or abated |                          |                          | 165                      | 168                      |
| Judgment for plaintiff                                    |                          |                          | 4                        | 6                        |
| Totals  |                          |                          | 217                      | 229                      |
| <i>Further Comparisons</i>                                |                          |                          |                          |                          |
| Appeals   |                          |                          | 3                        | 4                        |
| Judgments for defendant                                   |                          |                          |                          |                          |
| Judgments for plaintiff                                   |                          |                          |                          |                          |
| Pending on January 31, 1938                               | 493                      |                          |                          |                          |
| Pending on January 31, 1939                               | 441                      |                          |                          |                          |

and consultation with many claimants and their attorneys and frequently we have successfully demonstrated to them that in fact and in law no valid claim exists.

The Table of Comparisons which is above, shows that we disposed of during the present reporting period 229 cases as against 217 cases during the previous year. Of the 229 cases disposed of during the present reporting period 55 cases were settled and 168 actions were successfully terminated in favor of the physician. In 6 cases judgment was rendered in favor of the plaintiff.

Of the cases in the Appellate Courts we were successful in four instances.

We note from Table I that there were pending as of January 31, 1939, 441 cases as against 493 cases pending January 31, 1938.

Table II gives a comparison of the number of members insured in 1936, 1937, 1938, and 1939, and the number of members in the county societies and the percentage of insured members in the county societies and in the entire State Society.

### Counsel Work

During the period of this report your Counsel prepared for the Society's JOURNAL articles in the nature of editorial comment. These articles have included the following:

Professional Misconduct—Falsely Advertising Cure for Cancer  
Physicians' Automobiles—Right of Way  
Evidence—Privileged Communications

(Continued on page 604)

TABLE II

COMPARISON OF THE NUMBER OF MEMBERS INSURED IN 1930 1937 1938 AND 1939 AND THE NUMBER OF MEMBERS IN THE COUNTY SOCIETIES AND THE PERCENTAGE OF INSURED MEMBERS\*

|                 | 1930   |       |    | 1937   |       |    | 1938   |       |    | 1939   |       |    |
|-----------------|--------|-------|----|--------|-------|----|--------|-------|----|--------|-------|----|
|                 | A      | B     | C  | A      | B     | C  | A      | B     | C  | A      | B     | C  |
| Albany          | 274    | 179   | 05 | 276    | 155   | 50 | 285    | 150   | 56 | 298    | 166   | 56 |
| Allegany        | 35     | 10    | 40 | 34     | 12    | 32 | 31     | 12    | 40 | 33     | 12    | 36 |
| Bronx           | 1 001  | 505   | 48 | 1,151  | 478   | 42 | 1,238  | 500   | 40 | 1 324  | 503   | 37 |
| Broome          | 109    | 02    | 54 | 183    | 98    | 54 | 101    | 100   | 52 | 219    | 08    | 45 |
| Cattaraugus     | 00     | 33    | 55 | 58     | 30    | 52 | 50     | 29    | 49 | 03     | 20    | 40 |
| Cayuga          | 00     | 45    | 75 | 01     | 43    | 70 | 01     | 44    | 72 | 63     | 45    | 71 |
| Chautauqua      | 90     | 55    | 61 | 94     | 56    | 60 | 90     | 57    | 60 | 103    | 56    | 54 |
| Chemung         | 73     | 48    | 66 | 70     | 48    | 01 | 74     | 43    | 58 | 83     | 50    | 60 |
| Chenango        | 35     | 21    | 00 | 32     | 17    | 53 | 32     | 17    | 53 | 37     | 20    | 54 |
| Clinton         | 27     | 17    | 03 | 29     | 19    | 06 | 35     | 24    | 09 | 37     | 22    | 60 |
| Columbia        | 39     | 19    | 49 | 38     | 0     | 24 | 30     | 0     | 25 | 38     | 8     | 21 |
| Cortland        | 29     | 20    | 09 | 32     | 14    | 44 | 20     | 10    | 55 | 28     | 12    | 43 |
| Delaware        | 28     | 13    | 40 | 31     | 14    | 45 | 30     | 10    | 53 | 28     | 17    | 61 |
| Dutchess-Putnam | 174    | 85    | 40 |        |       |    |        |       |    |        |       |    |
| Dutchess        |        |       |    | 102    | 24    | 15 | 172    | 25    | 15 | 174    | 30    | 17 |
| Eric            | 801    | 450   | 56 | 840    | 309   | 37 | 857    | 208   | 35 | 894    | 305   | 34 |
| Essex           | 23     | 14    | 01 | 29     | 13    | 45 | 28     | 13    | 40 | 29     | 13    | 45 |
| Franklin        | 52     | 25    | 48 | 52     | 25    | 48 | 53     | 24    | 45 | 60     | 21    | 35 |
| Fulton          | 45     | 27    | 60 | 49     | 27    | 55 | 52     | 29    | 50 | 54     | 34    | 03 |
| Genesee         | 28     | 13    | 46 | 29     | 14    | 48 | 34     | 17    | 50 | 35     | 20    | 57 |
| Greene          | 25     | 19    | 70 | 31     | 21    | 08 | 33     | 21    | 64 | 34     | 19    | 50 |
| Herkimer        | 48     | 34    | 71 | 40     | 29    | 03 | 41     | 32    | 80 | 52     | 33    | 03 |
| Jefferson       | 82     | 48    | 59 | 88     | 47    | 53 | 94     | 55    | 58 | 94     | 47    | 50 |
| Jones           | 2,310  | 1,223 | 53 | 2 452  | 1 142 | 47 | 2 074  | 1 109 | 43 | 2,814  | 1 160 | 41 |
| Lewis           | 18     | 12    | 07 | 10     | 9     | 56 | 15     | 10    | 67 | 10     | 8     | 50 |
| Livingston      | 44     | 22    | 50 | 45     | 15    | 33 | 40     | 15    | 33 | 47     | 12    | 26 |
| Madison         | 35     | 19    | 57 | 39     | 20    | 51 | 39     | 17    | 43 | 41     | 17    | 41 |
| Monroe          | 453    | 203   | 05 | 471    | 255   | 54 | 473    | 255   | 54 | 506    | 257   | 51 |
| Montgomery      | 52     | 18    | 35 | 52     | 11    | 21 | 55     | 13    | 24 | 57     | 12    | 21 |
| Nassau          | 291    | 186   | 04 | 299    | 185   | 02 | 348    | 205   | 59 | 378    | 218   | 58 |
| New York        | 4,227  | 2 427 | 57 | 4 411  | 2,334 | 53 | 4 710  | 2 479 | 54 | 4 980  | 2 407 | 50 |
| Niagara         | 110    | 80    | 73 | 121    | 60    | 50 | 124    | 58    | 47 | 134    | 59    | 44 |
| Oneida          | 207    | 107   | 53 | 210    | 106   | 49 | 211    | 107   | 51 | 232    | 105   | 45 |
| Onondaga        | 342    | 210   | 04 | 348    | 201   | 58 | 365    | 209   | 57 | 383    | 209   | 55 |
| Ontario         | 78     | 39    | 50 | 82     | 39    | 48 | 80     | 41    | 48 | 89     | 39    | 44 |
| Orange          | 139    | 97    | 70 | 141    | 95    | 67 | 155    | 100   | 65 | 149    | 95    | 04 |
| Orleans         | 20     | 8     | 40 | 18     | 0     | 33 | 21     | 6     | 29 | 22     | 5     | 23 |
| Oswego          | 55     | 37    | 67 | 53     | 34    | 04 | 49     | 33    | 67 | 56     | 36    | 64 |
| Otsego          | 54     | 29    | 54 | 53     | 29    | 49 | 53     | 30    | 57 | 63     | 27    | 43 |
| Putnam          |        |       |    | 14     | 7     | 50 | 15     | 0     | 40 | 15     | 0     | 40 |
| Queens          | 077    | 400   | 59 | 739    | 391   | 53 | 839    | 401   | 48 | 901    | 425   | 46 |
| Rensselaer      | 108    | 72    | 07 | 108    | 54    | 50 | 119    | 55    | 40 | 129    | 59    | 46 |
| Richmond        | 111    | 46    | 41 | 114    | 44    | 39 | 122    | 46    | 38 | 132    | 47    | 36 |
| Rockland        | 70     | 31    | 44 | 71     | 35    | 49 | 77     | 34    | 44 | 83     | 33    | 40 |
| St Lawrence     | 70     | 27    | 39 | 69     | 24    | 35 | 67     | 28    | 42 | 73     | 27    | 37 |
| Saratoga        | 55     | 36    | 05 | 60     | 35    | 58 | 65     | 39    | 60 | 71     | 38    | 53 |
| Schenectady     | 134    | 94    | 70 | 181    | 80    | 61 | 137    | 84    | 61 | 145    | 87    | 60 |
| Schoharie       | 20     | 12    | 60 | 19     | 12    | 03 | 18     | 13    | 72 | 19     | 14    | 74 |
| Schuyler        | 11     | 7     | 04 | 10     | 4     | 40 | 10     | 2     | 20 | 12     | 2     | 17 |
| Seneca          | 24     | 10    | 42 | 27     | 12    | 44 | 29     | 12    | 41 | 31     | 12    | 39 |
| Stenben         | 68     | 48    | 71 | 68     | 44    | 05 | 74     | 46    | 62 | 81     | 48    | 59 |
| Suffolk         | 181    | 84    | 41 | 180    | 99    | 55 | 203    | 103   | 51 | 223    | 109   | 49 |
| Sullivan        | 44     | 31    | 70 | 40     | 28    | 61 | 48     | 31    | 67 | 47     | 26    | 55 |
| Tioga           | 26     | 13    | 50 | 27     | 11    | 41 | 28     | 12    | 43 | 30     | 12    | 40 |
| Tompkins        | 60     | 36    | 60 | 63     | 36    | 57 | 64     | 33    | 52 | 70     | 36    | 51 |
| Ulster          | 74     | 41    | 55 | 76     | 29    | 38 | 81     | 27    | 38 | 79     | 25    | 32 |
| Warren          | 52     | 31    | 60 | 60     | 26    | 43 | 58     | 27    | 47 | 63     | 27    | 43 |
| Washington      | 38     | 18    | 50 | 37     | 13    | 35 | 40     | 15    | 38 | 41     | 15    | 37 |
| Wayne           | 53     | 31    | 58 | 56     | 25    | 45 | 56     | 24    | 43 | 57     | 24    | 42 |
| Westchester     | 504    | 323   | 57 | 584    | 336   | 58 | 608    | 365   | 60 | 640    | 370   | 58 |
| Wyoming         | 30     | 12    | 40 | 35     | 10    | 39 | 30     | 12    | 40 | 32     | 14    | 44 |
| Yates           | 24     | 17    | 71 | 21     | 17    | 81 | 20     | 17    | 85 | 22     | 14    | 64 |
|                 | 14 194 | 8 013 | 57 | 14,856 | 7 412 | 50 | 15 799 | 7 719 | 49 | 16 743 | 7 756 | 46 |

\*A—number of members in County Society B—number of members insured C—percentage insured



Surgeons' Right to Discontinue Operation  
 Validity of Amendments to Workmen's Compensation Law Upheld by Highest Courts  
 Libel and Slander—Authorship of Article Medical Magazine  
 Injunction to Restrain Practice of Medicine without License  
 Physicians Contract Restricting Practice  
 Lectures and Sale of Tablets as the Practice of Medicine  
 Responsibility of Municipality for Injuries Sustained in Municipal Hospital  
 An Interesting Fracture Case  
 A Cancer Cure Enjoined  
 Illegal Practice of Medicine by a Chiropractor  
 Practice of Medicine by Corporation  
 Revocation of Physician's License upon Conviction of Crime Involving Moral Turpitude  
 Cancer Cure—Responsibility of Physician and Hospital  
 Practice of Medicine by Chiropractor

Your Counsel has also digested case reports upon malpractice actions which were felt to be of special interest to the members of the profession. These have been published in the State JOURNAL. The case reports which were published during the previous year are as follows

Separation of Symphysis Pubis  
 Fistula—Following Delivery  
 Claimed Loss of Sexual Powers Following Herniotomy  
 Foreign Body in Eye  
 Claim of Improper X-Ray Treatment  
 Alleged Injury Caused by X-Ray Machine  
 Hemorrhage Following Removal of Tumor  
 Claimed Improper Diagnosis of Cancer of Breast  
 Foreign Body in Eye  
 Failure to Diagnose Tuberculosis  
 Death from Cancer Following Injury to Knee  
 Accidental Breaking of Forceps  
 Death Following Amputation of Leg

Broken Anesthesia Needle  
 X-Ray Treatment of Psoriasis  
 Removal of Scar by Plastic Surgery

It is pleasing for your Counsel to learn from the members of your Society throughout the state that they enjoy reading these reports and articles and that they find them to be interesting and instructive

In addition to his other duties your Counsel receives frequent requests for opinions, orally and in writing, on various topics. Some of the matters upon which advice has been given (in writing) are the following

1 Request for form of consent in connection with the performance of a partial vasectomy

2 Inquiry from a physician, the director of a hospital, as to the method in which doctors' orders should be recorded in hospital records and as to the necessity of requiring such orders to be signed by the physicians making such orders

3 Inquiry as to the advisability of forcing a collection of a bill after dispute had arisen with a father concerning the propriety of treatment rendered by a physician to his son

4 Request from a county medical society for information concerning the right of a physician to reveal diagnoses to welfare officers in order to collect their fees for treating welfare cases

5 Inquiry concerning the order of right among surviving relatives to consent to the performance of an autopsy upon a deceased person

6 Question concerning the legal responsibility of a husband for medical bills covering treatment rendered by a physician to a wife, including the question of whether the wife has a free choice to employ any physician desired by her regardless of the husband's likes or dislikes

7 Inquiry by a county society as to the proper disposition of a physician's records upon his death when his practice has been sold to another physician

8 Inquiry by a county society concerning a physician's conduct when requested by police authorities to certify that a patient involved in a motor accident was intoxicated

9 A request for information with respect to a physician engaged in the business of manufacturing and preparing medicine asserted to be beneficial to patients suffering from heart ailments

(a) As to the ethics of a physician taking an active part in a company manufacturing and selling such a preparation

(b) As to the propriety of a physician preparing circulars and literature explaining the advantages of such medicine.

10 A request for information concerning a physician's right to publicly offer for sale a list of uncollectible accounts of patients.

11 Inquiry as to whether a physician has the legal right to refuse to treat a particular person if he does not wish to do so providing no emergency exists

12 Inquiry from a physician as to whether a hospital is legally required to see to it that a licensed physician should be in attendance during the rendering of certain specified care, or whether such care could be administered with an intern in attendance.

13 Request by a physician for information as to the ethical or legal problem in the display of an electric sign bearing the name of a physician

14 Inquiry from a county society as to the responsibility of a hospital, and of a physician who has permitted a patient to leave a hospital to attend to a business matter, prior to discharge from the hospital

15 Inquiry from a physician as to whether he was legally justified in presenting a bill for services rendered to certain persons while on ship-board

16 Request for opinion as to the responsibility of the surgeon and the

anesthetist, respectively, in the case of an anesthesia accident.

17 Inquiry from a physician as to whether he is entitled, without the consent of the husband and wife, to administer x ray therapy in an attempt to cure cancer, which would render the patient sterile.

18 Request for information as to whether a physician may be held liable in a malpractice suit after a patient had already recovered damages from the owner of an automobile, which caused the injuries which had been treated by the physician

19 Inquiry as to question of upon whom legal responsibility rests when a hospital patient receives a radiation burn

20 Request from a physician for information as to the applicability of Workmen's Compensation and Unemployment Insurance to physicians with respect to professional help in their employ

21 Request by a county society for information concerning the legal responsibility of a surgeon for the acts of a graduate nurse.

22 Request for information as to the Statute of Limitations applicable to malpractice actions where various situations are present.

23 Request from a county medical society for advice as to the propriety of making full citizenship a requirement for membership

24 Inquiry from a county society as to its right to accept a legacy

25 Inquiry from certain physicians who had formed a hospital corporation, concerning certain legal liability arising out of the operation of said institution

26 Request from a county medical society for advice as to the right of a society to compile a list for use of members of the society of patients who had repeatedly failed to make good financial obligations to doctors

27 Request from county society for advice as to conduct of a physician who had given an opinion with

respect to the settlement of a damage claim, and whose conduct had been criticized by an attorney interested in the matter

28 Request for information as to the responsibility of the state for judgments rendered against physicians employed by state hospitals

29 Inquiry regarding the responsibility of an anesthetist when an explosion or fire occurs in the operation of anesthesia apparatus

30 Request from a physician for information as to whether he is compelled by law to notify the civil authorities when a case involving an obvious assault, comes to his attention

31 Inquiry from a physician whose office is located near the state line as to his privilege of practicing across the state line

32 Inquiry from a physician as to the problem presented when a patient suffering from a serious neurologic condition discharges the physician in charge of the case and refuses to consult a neurologic surgeon and calls in a chiropractor

33 Inquiry from a physician concerning the legality of a vasectomy

34 Inquiries from numerous physicians as to the scope and general plan of malpractice defense afforded to members of the Medical Society of the State of New York under the Resolution of the House of Delegates

35 Requests from several physicians for sample forms to be used for the purpose of obtaining consents to operations with a particular view toward guarding against possible actions based upon breach of warranty or breach of contract

36 Request by a county society for advice as to the applicability to such a society of Social Security Legislation

### Other Counsel Activities

Your Counsel acting with the Committee on Bylaws has examined various proposed Amendments to the Constitution

and Bylaws of the State Society and of a number of component county societies and has rendered advice and made suggestions in connection therewith

Your Counsel has frequently conferred and given advice to Doctor Harry Aranow and Doctor David Kaliski in connection with the operation of the Workmen's Compensation Law

Your Counsel is constantly in communication with Doctor Peter Irving, Secretary and General Manager of the Medical Society of the State of New York, with regard to many legal questions which arise almost daily in connection with his work

Your Counsel participated in association with consulting counsel in conferences and litigation which led to the termination of the contract between Mr Gardiner and the Medical Society of the State of New York

In addition, your Counsel has also given legal advice and opinions to the various committees of your State Society

Scarcely a day goes by without telephone calls to your Counsel by members of your Society seeking advice and assistance on various problems in connection with their practice

### Legislative Advice and Activities

At the writing of this report the Legislature has been in session only about one month. Your Counsel has examined and given advice with respect to the bills that have so far been introduced affecting the medical profession

### Conclusion

Once again, in closing this report we do so by expressing our deep appreciation for the generous co-operation in court and consultation furnished us by many members of your Society in the defense of malpractice actions. Without this co-operation it would not have been possible to obtain the results shown by this report

Respectfully submitted,  
LORENZ J. BROSNAN, *Counsel*

## Report of the Journal Planning Committee

*To the House of Delegates*

*Gentlemen*

The JOURNAL Planning Committee has functioned under the resolution adopted by the 1938 House of Delegates, which recommended that the President with the approval of the Council appoint and set up an appropriate Committee to consider ways and means of carrying out the recommendations of the House of Delegates regarding the publication of the JOURNAL and Directory and the management of the technical exhibits.

As soon as the Council authorized the Board of Trustees to negotiate with the publisher of the JOURNAL and as soon as they reached an agreement that they could sign, the Planning Committee meetings were called into conference with the Trustees for the purpose of giving them a background of information. The Committee gave freely of time and thought to the publishing of the JOURNAL by the State Society. Each meeting was attended by the full membership. An agreement for printing was made with the Mack Printing Company of Easton, Pennsylvania. Details of editorial work, business management, the procuring of advertising, and the development of a new format and other details were arranged and approved by the Council.

The old JOURNAL Management Committee carried on until January 1, and then a new Publication Committee was suggested to the Council to carry on when the Society became free to publish the JOURNAL directly from its own offices.

The Bureaus of Public Relations and

Publications have been merged into a Department of Publication, and details have been arranged.

The Council approved the personnel of the Publication Committee recommended by the Planning Committee. This Committee has been given the task of employing such office force and using such advertising means as would be necessary for the JOURNAL. The administration of the production and distribution of the JOURNAL has been placed under the direction of the General Manager of the Society.

The specifications and changes in the format of the JOURNAL have been worked out. It is unnecessary to describe them when the Society has the means of seeing the JOURNAL itself.

The new Publication Committee has carried out its work, found ways of publishing the JOURNAL, established its offices and arranged for its business management. The Society now controls and publishes its own JOURNAL.

The management of exhibits will be carried on under the General Manager by an experienced member of the Publication Committee, Dr A. L. Loomis Bell of Brooklyn, at a minimum of expense to the Society without employment of an outside individual.

WILLIAM H. ROSS, *Chairman*

DONALD S. CHILDS

GEORGE W. COTTIS

HOMER L. NEILMS

THOMAS A. MCGOLDRICK

## Report of the Committee on the Revision of the Principles of Professional Conduct

*To the House of Delegates*

*Gentlemen*

In undertaking this task your special committee of five has carefully read and

studied the Principles of Professional Conduct of the Medical Society of the

State of New York, and also of the American Medical Association. There is much for serious thought in both, but inasmuch as this order to recodify is limited to the principles as adopted by the Medical Society of the State of New York, we have concentrated on these principles.

The sections to which we would particularly like to call attention are

Section 31—Relative to Advertising

Section 32—Relative to Commission or Bonus

Section 35—Relative to Unprofessional Conduct

Section 39—Relative to Enforcement, Discipline, and Punishment

We are convinced that suitable changes would be so far-reaching as to require a continued and careful further study of these sections and therefore we recommend that this committee be continued for another year before making its final report.

Respectfully submitted,

ORRIN S. WIGHTMAN, M. D., *Chairman*

OTTO A. FAUST

LEO F. SIMPSON

ALBERT A. GARTNER

HARRY E. WHEELOCK

## Amendments to Constitution and Bylaws

*To the House of Delegates*

*Gentlemen*

*Certain amendments and revisions are before you for action at your 1939 Annual Meeting*

*The first was introduced formally on May 9, 1938, by the Council at the suggestion of the Board of Trustees*

### Bylaws

#### Chapter I, Section 2

Add to (a) new sentence following the words "and payable"

"The dues' year shall coincide with the fiscal year, July 1st to June 30th of the succeeding year."

Change (b), first sentence, by deleting the words "May 31" and inserting the words "December 31st," making it read

"A member whose dues and assessments are unpaid after December 31st of any current year is not in good standing."

Change (c), first sentence, by deleting the words "December 31" and inserting the words "June 30th," making it read

"A member whose dues and assess-

ments are unpaid after June 30th of any current year shall automatically be dropped from the rolls of membership."

Add a new portion to be known as (d) to read as follows

"The change of the dues' year shall first become operative on July 1st, 1940, provided, however, that County dues and State assessment shall be paid at half the annual rate for the six months' period, January 1st, 1940, to June 30th, 1940, the full regular annual rate to be paid thereafter, as heretofore provided."

In the event of the adoption by the House of Delegates of the foregoing sentences, (a), (b), (c), and (d), it will be necessary to change the following previously suggested amendment (d)

"Dues and State assessment of a member elected or reinstated after November 1st shall be credited to the ensuing calendar year, all rights and privileges of membership, however, dating from the time of election."

to read as follows

"(e) Dues and State assessment of a member elected or reinstated after May 1st shall be credited to the ensuing calendar year, all rights and privileges of membership, however, dating from the time of election "

In the event that the amendments changing the dues' year should not be adopted, there would still be before the House for action the previously suggested amendment to Section 1, which would become sentence (d), allowing dues collected after November 1st to be credited to the ensuing calendar year

*The second was also submitted by the Council amending*

## Chapter XV

Amend by adding a new Section 7 to read

"The component County Medical Societies, their officers, committeemen and members shall not initiate any policy, propose any legislation or participate in any activities that are contrary to the policies of the Medical Society of the State of New York. This shall not be interpreted to prevent a component County Society from initiating any policy applicable to the profession within its boundaries and within the framework of adopted policy of the Medical Society of the State of New York."

*A third amendment was introduced by the Board of Trustees*

Amend Section 2, Chapter V, by the insertion before the last sentence of the following

"The Board of Trustees shall make and execute all contracts for the Society

*The fourth provides for amendments and revisions of the Constitution and Bylaws in accord with notice formally given by Dr James F Rooney to the 1938 House of Delegates in the following statement*

"I desire to give notice that I propose to

submit an amendment to Article IV of the Constitution and Chapter IV of the Bylaws, and to make such other changes in other Articles and Sections as to bring the whole Constitution and Bylaws into conformity. In view of the fact that this will require quite an extended survey of the interrelationship of all of the provisions, I desire to give this verbal notice, and to state that after consultation with the Counsel of the Society I shall submit the written proposals in time to meet the requirement of the Constitution and Bylaws concerning the publication of proposed amendments thereto "

*Dr Rooney has submitted the following amendments*

"That the Constitution of the Medical Society of the State of New York be amended as follows

## Constitution

### Article IV—Council

That Article IV be deleted and the following substituted

"The Council shall be composed of (a) officers of the Society, (b) chairmen of the standing committees, (c) the retiring President for a term of one year after his term of office expires "

### Article V—Officers

That Article V be amended by adding after the word "Delegates " "five Trustees and one Councilor from each District Branch, who shall be the President thereof", and that the last sentence of the present Article V be deleted and the following substituted therefor

"The officers shall take office at the termination of the annual meeting at which they were elected with the exception of the Councilors elected by the District Branches, who shall take office at the termination of the next annual meeting of the State Society. That the Bylaws of the Medical Society of the State of New York be amended to read as follows

## Bylaws

### Chapter II—Section 1

That Section 1 (c) be amended by deleting the first sentence, to wit "the Presidents of the District Branches sitting as District Delegates" and adding a new sub-paragraph "(d) the chairmen of Standing Committees" Section 1 will then read as follows

Sec 1 The House of Delegates shall be composed of (a) Delegates elected by the component County Medical Societies, (b) Officers of the Society and other members of the Council and of the Board of Trustees, (c) Past Presidents of the Society shall be life members of the House of Delegates, and (d) the chairmen of Standing Committees Each component County Society shall be entitled to elect as many delegates as there shall be State Assembly Districts in such County at the time of the election, but each component County Medical Society shall be entitled to elect at least one delegate A component Society representing by its name more than one County shall be entitled to as many delegates as there are Assembly Districts in the Counties named in the title of such Society

That Section 8 be amended by changing item 12 to read "Reports of the Councilors," item 13 to read "Reports of the Standing Committees," and renumbering the balance of the section Section 8 will then read as follows

Sec 8 The following shall be the order of business at the sessions of the House of Delegates

- 1 Calling the meeting to order
- 2 Report of Reference Committee on Credentials
- 3 Roll call by the Secretary
- 4 Reading the minutes of the previous meeting
- 5 Report of the President
- 6 Address by the President-Elect
- 7 Report of the Board of Censors
- 8 Report of the Council

- 9 Report of the Secretary
- 10 Report of the Treasurer
- 11 Report of the Board of Trustees
- 12 Reports of the Councilors
- 13 Reports of the Standing Committees
- 14 Reports of the Special Committees
- 15 Reports of Reference Committees
- 16 Unfinished business
- 17 New business
- 18 Adjournment

### Chapter III

That Chapter III, Section 1 be amended by deleting the following words in the first sentence, "members of the Council" and substituting therefor, "chairmen of Standing Committees," Section 1 will then read as follows

Sec 1 The Officers, chairmen of Standing Committees, and of the Board of Trustees of the Society, and the Delegates to the American Medical Association shall be elected as the first business of the second day's session of the annual meeting of the House of Delegates No member of the Society who is in arrears for county dues or State Society per capita assessment shall be eligible for any office or entitled to vote for any officer, member of the Council, trustee or delegate.

That Section 2 be amended by adding after the words "Vice-Speaker of the House of Delegates" the words "chairmen of Standing Committees" and that the last paragraph of said Section 2, beginning with the words "Three members" and ending with the words "unexpired term" be deleted Section 2 will then read as follows

Sec 2 The President, the President-Elect, who shall serve as first Vice-President, the second Vice-President, the Secretary, the Assistant Secretary, the Treasurer, the Assistant Treasurer, the Speaker and the Vice-Speaker of the House of Delegates, and chairmen of Standing Committees

shall be elected for one year or until their successors have been duly chosen

That Section 4 be amended by deleting the following words in the first sentence "other members of the Council" and the following substituted therefor, "chairmen of Standing Committees" Section 4 will then read as follows

Sec 4 The first order of business on the second day of the session of the House of Delegates of each annual meeting shall be the nominations for officers of the Society and chairmen of Standing Committees, a member of the Board of Trustees, delegates to the American Medical Association, and the appointment of a sufficient number of tellers by the Speaker After all nominations have been made the Secretary shall cause to be displayed in full sight of the delegates a list of nominees for each office arranged in alphabetical order, and shall also cause to be distributed a sufficient number of blank ballots for the use of the House of Delegates These ballots shall have printed or stamped thereon the appropriate headings for each office with spaces thereunder in which may be written the name of the candidate or candidates to be voted for

#### Chapter IV—Council

That the present Chapter IV be deleted and the following substituted therefor

#### CHAPTER IV

##### *Council*

Sec 1 The Council shall meet at the close of the annual meeting of the House of Delegates The members of the Council shall hold office until their successors are duly elected and qualified

Sec 2 It shall meet twice a year, the time and place to be selected by the President, and it shall meet at other times upon the request in writing of five members of the Council, or upon the call of the President.

Sec 3 A quorum shall consist of eleven members

Sec. 4 The Council shall be the executive and administrative body of the Society and shall control all arrangements for the annual meeting, shall elect an Executive Committee of the Council to carry on during the interim between the regular meetings of the Council the affairs and the business of the Society Its action shall be governed by the Constitution and Bylaws of the Society and the rules and regulations of the House of Delegates It shall have power to employ legal counsel

Sec 5 The Council shall take such action as is necessary to carry out the Constitution and Bylaws and to give full effect to any resolution or vote of the House of Delegates It shall also have power to legislate as a House of Delegates, when the latter is not in session, on all matters consistent with the Constitution and Bylaws Such legislative action of the Council shall not become effective or binding on the Society until approved by a majority of a referendum vote of the House of Delegates, provided a majority of the House of Delegates vote thereon within fifteen days after the mailing of the question submitted for referendum The Secretary shall send the question for referendum vote to all the members of the House of Delegates

The Council shall have power to fill any vacancies which may occur in any elective office not otherwise provided for, until the next annual meeting of the House of Delegates

Sec 6 The following shall be the order of business at meetings of the Council

- 1 Calling the meeting to order
- 2 Roll call by the Secretary
- 3 Reading of minutes
- 4 Communications
- 5 Reports of chairmen of standing and special committees
- 6 Unfinished business
- 7 New business.



## Chapter V—Executive Committee

That a new chapter reading as follows be inserted to follow the present Chapter IV to become "Chapter V" entitled "Executive Committee"

### CHAPTER V

#### *Executive Committee*

Sec 1 At its first regular meeting the Council shall choose by a majority vote five members of the Council, three of whom shall be councilors, who together with the President, the President-elect, the Secretary, the Treasurer and the immediate Past President shall constitute the Executive Committee. Candidates for election to the Executive Committee shall be nominated by the President, but other candidates may be nominated by any member of the Council. The Executive Committee shall hold office until the following annual meeting of the Council or until their successors shall be duly chosen. The Executive Committee shall, when elected, organize immediately under the Chairmanship of the President of the Society and proceed to elect a Vice-Chairman. The Executive Committee shall hold regular meetings at times and places that shall be fixed by the Chairman, and any two members of the Executive Committee may require the Chairman thereof to call a meeting for such time and place as shall be designated by them in writing, of which the members shall have at least two days' notice. Five members shall constitute a quorum. It shall prepare a budget to be acted upon by the Board of Trustees.

Sec 2 The following shall be the order of business at meetings of the Executive Committee

- 1 Calling the meeting to order
- 2 Roll call
- 3 Reading of minutes
- 4 Communications
- 5 Reports of committees
- 6 Unfinished business
- 7 New business

Sec 3 The Executive Committee shall superintend all publications of the Society and their distribution and shall have authority to appoint a Publication Committee, and Editor and such assistants as it may deem necessary and provide for the publication of official pronouncements of component county societies when requested by said society. The Standing and Special Committees of the Society shall report to the Executive Committee and shall be subject to the jurisdiction of the Council or the Executive Committee when the House of Delegates is not in session. No Standing or Special Committee shall inaugurate or initiate any policy or commit the Society to any policy unless the same has been expressly approved by the House of Delegates, and/or the Council and/or the Executive Committee. The Executive Committee shall have such other powers and duties as may be delegated to it from time to time by the Council. It shall act as adviser to the legal counsel of the Society in suits brought against members of the Society for alleged malpractice. It shall, with the aid of the legal counsel, examine the Constitution and Bylaws of component County Societies and District Branches, and all amendments thereto which may be submitted to the Council for approval, and shall report to the Council its approval or disapproval thereof. The Chairman of the Executive Committee may order, or any two members of the Committee may require the Chairman to order, a referendum vote of the Council on any question that may come before the Executive Committee and members of the Council may vote thereon by mail, telegram, or telephone. The poll on the question so submitted shall be closed at the expiration of one week after the mailing of the question and if the members of the Council voting shall comprise a majority of all the members of the Council, a majority of such vote shall determine the question and be binding

upon the Council and the Executive Committee.

Sec. 4 In case of any vacancy in the Executive Committee through death, resignation, disqualification, or other cause, the Chairman shall appoint a successor to fill such vacancy until the next meeting of the Council.

Sec. 5 The Executive Committee shall have charge of the administrative and business affairs of the Society while the Council is not in session, and may adopt rules and regulations in conformity with the Constitution and Bylaws of the Society or to the rules, regulations, or orders of the House of Delegates or of the Council.

That the present Chapter V (Board of Trustees) be renumbered to become Chapter VI.

That the present Chapter VI (Censors) become Chapter IX.

That the present Chapter VII be deleted and the following substituted therefor

## CHAPTER VII

### *Duties of Officers*

Sec. 1 The President shall preside at all meetings of the Society, the Council, and the Censors. He shall be Chairman of the Executive Committee. He shall be ex-officio member of the Board of Trustees and of all committees. He shall appoint all committees not otherwise provided for. He shall deliver an address at the annual meeting of the Society. He shall perform such other duties as the House of Delegates or the Council shall require. He shall not accept any civic or public duties without the advice and consent of the Council.

Sec. 2 The ranking Vice-President in the absence of the President shall perform the duties of such officer. In the event of the President's death, resignation, removal, incapacity or refusal to act the ranking Vice President shall succeed him.

Sec. 3 The President-Elect shall perform no specific duties other than those of a member of the Council and the Executive Committee. He shall not accept any civic or public duties without the advice and consent of the Council.

Sec. 4 The Speaker shall preside at all meetings of the House of Delegates. He shall appoint all parliamentary committees serving during the meeting of the House of Delegates.

Sec. 5 The Vice-Speaker shall perform the duties of the Speaker when requested by the Speaker to do so, or in case of the absence, death, resignation or refusal of the Speaker to act.

Sec. 6 The Secretary shall attend all meetings of the Society, the House of Delegates, the Council, Board of Trustees, the Executive Committee of the Council, and the Censors, and shall keep minutes of their respective proceedings in separate records. He shall be responsible for and have general charge of the Society's offices and the employees therein. He shall be the custodian of the seal of the Society, and of all books of records and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep an account of, and promptly turn over to the Treasurer, all funds of the Society which come into his hands. He shall provide for the registration of the members at all sessions of the Society. With the aid and co-operation of the secretaries of the county societies, he shall keep a proper register of all the registered physicians of the State by counties. He shall aid the Councilors in the organization and improvement of the county societies and the extension of the power and influence of the Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall affix the seal of the Society to all credentials issued to members of the Society elected by the House of Delegates and to such other papers and

documents as may require the same. He shall make an annual report to the House of Delegates and also the reports of the Council and the Board of Censors. He shall supply each county society with the necessary blanks for making their annual reports to this Society. Acting in co-operation with the Committee on Scientific Work he shall prepare and issue all programs. He shall be ex-officio a member of all standing committees. He shall record the name and date of admission of each member of the Society.

Sec 7 The Assistant Secretary shall aid the Secretary in the work of his office and in the absence or disability of the latter, he shall perform the duties of the office until the Secretary resumes the work, or in case of a vacancy until a successor shall be elected. He shall be entitled to all the rights and privileges of the office while acting as Secretary.

Sec 8 The Treasurer shall keep accurate books of accounts of all moneys of the Society which he may receive, and shall disburse the same when duly authorized by the Board of Trustees, but all checks drawn by the Treasurer upon the funds of the Society shall be countersigned by the Secretary of the Society. He shall collect, on or before the first day of June in each year, from the Treasurer of each component county society the State per capita assessment. He shall, at the expense of the Society, give a bond for the faithful performance of his duties, which shall be approved by the Board of Trustees as to amount, form, and surety. He shall make an annual report to the House of Delegates and, whenever requested, to the Board of Trustees.

Sec 9 The Assistant Treasurer shall aid the Treasurer in the work of his office, and in the absence or disability of the latter, he shall perform the duties of the office until the Treasurer resumes the work, or in case of a vacancy until a successor shall be elected. He shall, at the expense of

the Society, give a bond for the faithful performance of his duties, which shall be approved by the Board of Trustees as to the amount, form, and surety. He shall be entitled to all the rights and privileges of the office while acting as Treasurer.

Sec 10 Each District Councilor shall visit the counties of his district at least once a year and make a careful inquiry of the condition of the profession in each county in his district and shall report thereon to the House of Delegates.

That a new chapter to be entitled "Chapter VIII" be interpolated between the present Chapter VII and Chapter IX and to read as follows

## CHAPTER VII

### *Committees*

Sec 1 The Committees shall be classified as Standing, Reference, and Special Committees. Standing and Special Committees shall report to the Council and/or the Executive Committee and/or the House of Delegates.

Committee on Scientific Work

Committee on Legislation

Committee on Public Health and Medical Education

Committee on Economics and Public Relations

Committee on Arrangements

Sec 2 The Committee on Scientific Work shall consist of the Chairman, a member to be nominated by the President of the Society and elected by the Council, and the Chairmen of the different sections. It shall hold meetings and prepare the necessary programs for the annual meeting of the Society and for such other special meetings as may be designated by the House of Delegates. It shall forward programs in ample time for publication, and not later than thirty days before the annual session shall send a completed program to the Secretary for the printing of the final program.

Sec 3 The Committee on Legislation shall consist of five members in-

cluding the Chairman. It shall be the representative of the Society on all matters of medical legislation and shall have charge of all hearings before the Committees of the Legislature. The component county societies and their committees on legislation shall co-operate with this Committee and act in harmony with it on all such matters. It shall keep in touch with professional and public opinion on matters relating to medical legislation. It shall represent the Society in procuring the enactment of the medical laws of the State, in the interest of public health and of scientific medicine as will best secure and promote the welfare of the whole people. It shall take all legal and honorable means of opposing and preventing all vicious legislation detrimental to the best interests of the profession and the welfare of the public.

Sec. 4 The Committee on Public Health and Medical Education shall consist of five members including the Chairman. It shall be the function of this Committee to investigate, study and report to the House of Delegates on matters of public health, preventive medicine, and medical education. It shall gather facts regarding the activities of health organizations, both official and nonofficial, and report to the House of Delegates regarding the same when it so deems necessary. It shall be the duty of this Committee to advise the House of Delegates as to plans for postgraduate education for the general profession and shall be in charge of carrying out such plans as are approved by the House of Delegates. It shall co-operate with similar committees of component county societies in carrying out recommendations of the House of Delegates dealing with public health and medical education.

Sec. 5 The Committee on Economics and Public Relations shall consist of five members, including the Chairman. The function of this Committee shall be to conduct investigations, to gather facts, to make studies or surveys on the general subject

of the relationship of the physician individually and collectively with the public. It shall receive matters of general public information and study them both in regard to their effect upon the practice of medicine in private or institutional work. It shall concern itself with the financial aspects of the practice of medicine, throughout the State of New York, especially insofar as it affects the efficiency of medical service to the public. It shall concern itself with all economic phases regarding the practice of medicine in hospitals, private or public clinics, commercial organizations, and other institutions established for diagnosis and treatment.

Sec. 6 The Committee on Arrangements shall consist of nine members, including the Chairman. It shall provide suitable accommodations for the meeting places of the Society, the House of Delegates, and the Sections and shall make all necessary arrangements for these meetings. The Chairman of the Committee shall send an outline of the arrangements to the Secretary for publication in the program, and shall make such announcements during the session as occasion may require.

Sec. 7 The Chairman of all Standing Committees shall be elected by the House of Delegates unless otherwise provided for in the Bylaws. The remaining members shall be elected by the Council.

#### *Reference Committees*

Sec. 8 At least one month before the meeting of the House of Delegates the Speaker shall appoint such Reference Committees as he shall deem expedient for the purposes of the meeting. Immediately after the organization of the House of Delegates he shall formally announce the appointments to the Committees. Only members of the House of Delegates are eligible for appointment on the Reference Committees. Such Committees shall consist of five members, three members

constituting a quorum, and shall serve during the meeting at which they are appointed

Sec 9 Reports of Officers and Standing Committees shall be printed at least one month before the meeting of the House of Delegates and sent to the members of the Reference Committee appointed according to Section 9, for their preliminary consideration. All recommendations, resolutions, measures and propositions presented to the House of Delegates and which have been duly seconded shall be referred by the Speaker to the appropriate Reference Committee.

Sec 10 Each Reference Committee shall, as soon as possible, take up and consider such business as may have been referred to it and shall report when called upon to do so

### *Special Committees*

Sec 11 Special Committees may be created by the House of Delegates to perform the special functions for which they are created. They shall be appointed by the officer presiding over the meeting at which the committee is authorized, if such committee is to conclude its work during said meeting of the House of Delegates. The President shall appoint all other committees unless otherwise ordered by the House of Delegates

Sec 12 A Special Committee on Prize Essays consisting of three members, including the Chairman, shall be appointed by the President. Its duty shall be to receive all essays offered in competition for prizes which may be offered by this Society. The Committee shall make all necessary rules and regulations for the award of prizes subject to the terms of the deeds of gift, and shall report the result at the next annual meeting of the House of Delegates. They shall give notice through the Society's publication or by other methods within thirty days after their appointment, of the amount of the prize and when the essays shall be submitted to the Committee

Sec 13 Any member of the Society shall be eligible to serve on Standing or Special Committees. All members of committees, who are not members of the House of Delegates, shall have the right to present their reports in person to the House of Delegates and to participate in the debate thereon, but shall not have the right to vote

Sec 14 Completion of Work In all cases where certain work is being performed or problems studied by Standing or Special Committees, such work or study shall not be considered finished when the tenure of office of such Committee ends but shall be continued by the succeeding Committee

That the present Chapter VIII (Direction of Activities) to become Chapter XII

That the present Chapter IX (Meetings) be renumbered and become Chapter X

That the present Chapter X (Expenses) be renumbered and become Chapter XI

That the present Chapter XIII remain the same

That Chapter XIV be amended to read as follows

## CHAPTER XIV

### *District Branches*

Sec 1 Each District Branch shall elect a President for two years who shall be the Councilor for that Branch

Sec 2 Each District Branch shall elect such officers as are provided for in its Bylaws who shall attend the business meetings of the Branch

That the present Chapter XV, Chapter XVI, Chapter XVII, and Chapter XVII remain the same

These amendments to the Bylaws will take effect at the termination of the

Annual Meeting of the Medical Society  
of the State of New York in 1940

*as provided in the present Bylaws, Chapter  
XVIII*

*All of the foregoing amendments, having been  
properly introduced, are here published*

JAMES M. FLYNN, M. D., *Speaker*  
PETER IRVING, M. D., *Secretary*

## Report of the First District Branch

*To the House of Delegates*

*Gentlemen*

The 32nd Annual Meeting of the First District Branch was held on November 17, 1938, at the New York Hospital and Cornell Medical School. A full day was devoted to sessions consisting of lectures, demonstrations, operative clinics in general surgery, orthopedic surgery, pediatrics, obstetrics and gynecology, hematology, diabetes and endocrinology, neurology and psychiatry, roentgenology, urology, ophthalmology, and otolaryngology.

After the luncheon, which was praised for its excellence, the assembled physicians were addressed briefly by Mr. Smith, chairman of the New York Hospital Board, and by the medical heads of the various branches and services.

Dr. West presided at the regular business meeting.

This meeting was addressed by Mr. Murray Sargent, executive officer of the hospital, in the form of a short word of welcome.

This was followed by appointment of a nominating committee, consisting of Dr. Stanwix of Yonkers, Dr. Holman of Orange, and Dr. Nott, of Westchester, which brought in the following slate for president, Theodore West, Westchester County, 1st vice-president, A. N. Selman, Rockland County, 2nd vice-president, M. R. Bradner, Orange County secretary, I. J. Landsman,

Bronx County treasurer, H. C. Taylor, Jr., New York County.

These men were then duly elected as the officers of the First District Branch for the ensuing two years. Brief talks followed. The President of the State Society took as his title "An Optimistic Note on the Future of Medicine", the Secretary of the State Medical Society, Dr. Peter Irving, equally optimistic, spoke on "Cash Indemnity Insurance", Dr. Joseph Lawrence on "Medical Care of the Indigent", and Dr. West made the concluding remarks.

The meeting was well attended, and the keen interest shown by the membership in the previous annual meetings encouraged the officers to plan this meeting along the same general lines, and it is very obvious that this one day postgraduate study has become a favorite with the members of the First District Branch.

The success of the annual meetings of the past two years has demonstrated the fact that there is a definite place for the First District Branch in the metropolitan district, and that meetings can well be clinical in character. It is hoped that a similar meeting will be held next fall, and that it will continue the high standards which have been previously set.

Respectfully submitted,  
THEODORE WEST, *President*

February 23, 1939

## Report of the Second District Branch

*To the House of Delegates*

*Gentlemen*

The Annual Meeting of the Second District Branch was held at the Garden City Hotel on November 16, 1938. A full day's scientific program on the subject of diseases of the gastrointestinal tract met with the approval of some two hundred physicians in attendance. The morning's program was devoted to a pathologic exhibit on the various phases of diseases of the gastrointestinal tract, under the chairmanship of Dr. Theodore J. Curphey. Pathologists of Brooklyn and Long Island hospitals who participated were Dr. Alfred Angrist, Queens General Hospital, Dr. Edward J. Buxbaum, Jamaica Hospital, Dr. Theodore J. Curphey, Meadowbrook Hospital, Medical Examiner, Nassau County, Dr. Earl B. Erskine, Mary Immaculate Hospital, Dr. Harold Fink, Coney Island Hospital, Dr. Louise D. Larimore, North County Community Hospital, Glen Cove, Dr. Max Lederer, Jewish Hospital, Brooklyn, Dr. Lawrence Sophian, Nassau Hospital.

The afternoon program was devoted to lectures on the medical and surgical aspects of the subject under consideration. Physicians in attendance had the pleasure of listening to the following addresses and speakers:

"Medical Management of Peptic Ulcer," by Dr. Albert F. R. Andresen, Brooklyn, "Treatment of Gastric Hemorrhage," by Dr. John B. D'Albora, Brooklyn, "Surgical Indications in Diseases of the Gastroduodenal Tract," by Dr. Benjamin W. Seaman, Hempstead, "Sur-

gical Indications in Diseases of the Colon," by Dr. Charles C. Murphy, Amityville, "Gastrointestinal Allergy," by Dr. Matthew Walzer, Brooklyn, and "Interesting Gastrointestinal X-Ray Case Reports," by Dr. I. S. Startz, Elmhurst.

A luncheon at the hotel was attended by approximately 175 physicians and members of the Woman's Auxiliaries of the Medical Societies of the Counties of Kings, Queens, Nassau, and Suffolk. The speakers' table was graced by the President of the State Society Woman's Auxiliary, Mrs. Daniel J. Swan, as well as the past president of the State Society Woman's Auxiliary and the presidents of the County Woman's Auxiliaries. The officers of the Second District Branch are grateful to Mrs. James M. Dobbins, Chairman of the Committee on Arrangements of the four county auxiliaries, and the members of her committee for their cooperation in making the annual meeting a social success.

We were honored by the presence of officers of the State Society—Dr. William A. Groat, President, Dr. Terry M. Townsend, President-Elect, and Dr. Joseph Lawrence, Executive Officer.

The general enthusiasm at the meeting and the opportunity for social and professional relationships among the four counties of Long Island was made possible only by the existence of the district branch.

Respectfully submitted,  
IRVING GRAY, *President*

February 10, 1939

## Report of the Third District Branch

*To the House of Delegates*

*Gentlemen*

The Third District Branch, composed of the Counties of Albany, Columbia, Greene, Rensselaer, Schoharie, Sullivan,

and Ulster, held its Thirty-second Annual Meeting at the Central High School Auditorium in Cobleskill, New York, September 20, 1938. Over a hundred members were present, besides several

guests from neighboring medical districts Dr Carolyn L Olendorf of Cobleskill, President of the Schoharie Medical Society, opened the meeting with a hearty address of welcome. Then followed an instructive scientific program.

Dr Frederick A D Alexander, Director of Anesthesia, Albany Hospital, spoke on "Modern Anesthesia." A paper prepared by Morris A Goldberger of Mt Sinai Hospital, New York, on "Modern Trends in Obstetrical Practice" was read. Dr T Wood Clarke of Utica, spoke on "Allergic Manifestations in the Central Nervous System." Dr Donald Guthrie of the Guthrie Clinic, Sayre, Pa, spoke on "The Diagnosis and Surgical Treatment of Hyperthyroidism." These papers were each followed by lively discussions by various doctors and proved highly instructive.

At noon a fine lunch was served at Hotel Augustan during which several guests were introduced, among whom were State President William A Groat, State Secretary Peter Irving, Augustus J Hambrook, members of the Council, and others.

At the election of officers which fol-

lowed the luncheon, Dr Arthur M Dickinson of Albany, was chosen president, Dr Mahlon H Atkinson of Catskill, vice-president, Dr Stephen H Curtis of Troy, second vice president, Dr Wm Rapp of Catskill, secretary, and Dr E E Billings of Kingston, treasurer.

During the afternoon scientific session, Dr Louis K Diamond of Harvard University spoke on "Anemia in Children," and Dr Chas Gordon Heyd of New York City presented a paper "The Diagnostic Interpretation of Jaundice," which was illustrated with lantern slides.

I wish to thank all the officers, committees, and members of the Third District Branch for their attendance and for their efforts to make this meeting a success. I would especially thank the speakers who contributed so much of interest and instruction. Also, I wish to thank heartily the members of the Schoharie Medical Society and the ladies of the local society who did so much to make our visit to Cobleskill pleasant and entertaining.

Respectfully submitted,

BERTRAN W GIFFORD, *President*

February 10, 1939

## Report of the Fourth District Branch

*To the House of Delegates  
Gentlemen*

The Thirty second Annual Meeting of the Fourth District Branch was held at the Elks' Club in Amsterdam in the afternoon and evening of Friday, September 31, and in the morning of Saturday October 1, 1938.

During the afternoon session the following papers were read: "The Menopausal Syndrome," by Dr Lyle A Sutton, Albany, "Menopausal Bleeding," by Dr Arthur J Wallingford, Albany, and "Fever Therapy," by Dr Stafford L Warren, Rochester.

These papers were timely, extremely well presented and aroused much dis-

cussion. At the close of the scientific session the following officers for 1939 and 1940 were elected:

President Dr Sylvester C Clemans Groversville, first vice president, Dr E Harrison Ormsby, Amsterdam, second vice president, Dr Warriner Woodruff, Saranac Lake, secretary, Dr Harold A Peck, Glens Falls, and treasurer, Dr John E Free, Ogdensburg.

During the evening the members and guests of the Fourth District Branch were entertained by the Montgomery County Society at a dinner which was also held at the Elks Club. Among the distinguished guests were Dr William A Groat, President of the State Medical



Society, Dr Peter Irving, Secretary of the State Society, and Dr Joseph Lawrence, Executive Secretary. There was no stated program but addresses were given by President Groat and Dr Irving. Informal talks were also presented by various past presidents of the district.

On Saturday morning the scientific schedule was continued and the program was as follows: "The Diagnosis and Treatment of Tic Douloureux and Allied Conditions," by Dr Eldridge H Campbell, Albany, "The Food Factor in

Allergy," by Dr Will Cook Spain, New York City, and "Recent Advances in the Surgical Treatment of Pulmonary Tuberculosis," by Dr Edward S Welles, Saranac Lake.

The high character of the papers was amply appreciated in this program which was provocative of much interest and discussion.

All meetings were well attended.

Respectfully submitted,

CARL R COMSTOCK, *President*

February 15, 1939

## Report of the Fifth District Branch

*To the House of Delegates*

*Gentlemen*

The Thirty-second Annual Meeting of the Fifth District Branch of the Medical Society of the State of New York was held on Thursday, October 6, 1938, at the Elks' Club, Oneida, New York.

The meeting was called to order at 10 05 A M. The minutes of the previous meeting were read and approved. Under the heading of scientific program Dr F J Schoenech, of Syracuse, gave a splendid paper on the progress of obstetrics. Dr Robert Sloan, of Utica, gave an extensive review of the abuse of cesarean section, and Dr Wendell George, of Watertown, outlined a technical review of puerperal infections, with special reference to the use of sulfanilamide. These three papers were discussed by Dr Francis Irving, who stressed conservatism and the low cesarean. Dr W J Newell considered our high mortality statistics might be better if we excluded heart disease, et cetera, up to a period of say six months, and he stressed, particularly, the need of consultation before cesarean. Dr E H Carpenter referred to the advantages of prenatal care. Closing remarks were made by the three speakers answering questions and elaborating in more detail on the various points suggested. The

meeting adjourned across the street to the Masonic Temple, where a luncheon was served by Oneida Chapter No 21 OES, following which the President called on Dr Farmer to introduce Dr Van Etten, who paid a splendid tribute to Dr Groat as an exemplar of the best in medicine. Dr O W H Mitchell then presented Dr Groat, President of the Medical Society of the State of New York and past president of the Fifth District Branch, 1933-1934.

Dr B W McCuen read a resolution of condolence in regard to the death of Dr Frederick H Flaherty. The meeting stood for a moment in silence in respect to Dr Flaherty. The president ordered the resolution to be incorporated in the minutes of this meeting and a copy to be sent to the family of Dr Flaherty.

Dr Russell L Haden, of the Cleveland Clinic, spoke on the mechanism of anemia. Accompanied by charts and lantern slides, Dr Haden made a difficult subject seem very simple. Dr Ellery G Allen discussed Dr Haden's paper, stressing several important points. Dr Edward C Reifensien spoke in appreciation and called attention to the progress and treatment of aplastic anemia, which he said is a very rare occurrence. Dr William W Hall made reference to the small spleen, sometimes found by x-ray in cases of

leukemia Dr Haden closed the discussion

Dr Herman O Mosenthal, of New York, continued the scientific program with a discussion of Protamine Zinc Insulin, illustrating by numerous charts the progress made in New York City in the treatment of diabetes and the advantages of this drug when combined with insulin Discussion was joined in by Dr Hall of Watertown, and Drs

Reifenstein, Groat, and Holmes, of Syracuse, also Dr Raymond of Cazenovia, all of whom stressed important points in the paper and asked interesting questions

The meeting adjourned at 5 P M There were 164 present

Respectfully submitted,  
CHARLES A EARL, *President*

February 14, 1939

## Report of the Sixth District Branch

*To the House of Delegates*  
*Gentlemen*

The Thirty second Annual Meeting of the Sixth District Branch of the Medical Society of the State of New York was held at Elmira, New York, August 27, 1938, in the Hotel Mark Twain A goodly number of physicians were in attendance—119 from the District and 14 from outside—a total of 133

The morning session was opened promptly at ten o'clock, with Dr Reeve B Howland, president, presiding An excellent program had been prepared The first paper, 'Postoperative Pulmonary Complications,' by Dr Donald J Tillou, was a very interesting discussion of this interesting subject The discussion of this paper was opened by Dr Mark H. Williams of Binghamton A thorough discussion was entered into by several surgeons of the District, including Dr Ethan Flagg Butler, F.A.C.S., of Ithaca, Dr John Wattenburg, F.A.C.S., of Cortland, Dr Frank M Dreyer, F.A.C.S., of Binghamton.

At 11 00 A.M moving pictures of the fluoroscopic image by Dr William Stuart, F.A.C.R., Director Department of Radiology, and Dr Francis H Ghiselin, Associate, Lenox Hill Hospital, New York City, were shown, giving vivid pictures of moving organs within the body These marvelous pictures were greatly appreciated by the audience. The discussion

of this paper was opened by Dr Hobart H Burch, Director, Department of Radiology, St. Joseph's Hospital, Elmira Others taking part in the discussion were Dr Leo Larkin, Ithaca, and Dr John Bennett, Elmira

Luncheon was served in the dining room of the Mark Twain at 1 00 P.M to the physicians present. The ladies were entertained at luncheon at the Elmira Golf and Country Club

At 2 00 P.M the meeting again came to order and a very valuable and comprehensive discussion of 'The Anemias and their Treatment' with moving pictures of 'Pernicious Anemia' was delivered by Dr William P Murphy of Boston His discussion of this practical subject was listened to with rapt attention The members greatly appreciated the effort Dr Murphy made to get to the meeting, as he was caught in the flood in Massachusetts and had extreme difficulty, and many extra miles of driving, in order to get through The discussion of his paper was opened by Dr George MacKenzie, of Cooperstown The paper was greatly enjoyed and thoroughly discussed

At 4 00 P.M Dr James K Quigley, F.A.C.S., of Rochester, delivered a very interesting paper 'Ablatio Placentae,' one of the more uncommon accidents in the practice of Obstetrics Dr Stewart B Blakey, F.A.C.S., of Binghamton,

opened the discussion of this paper and brought out several valuable facts relative to treatment

The meeting was one of enthusiasm and the members expressed their apprecia-

tion to the speakers for the efforts they made in coming so far to Elmira

Respectfully submitted,

REEVE B HOWLAND, *President*

February 19, 1939

## Report of the Seventh District Branch

*To the House of Delegates*

*Gentlemen*

### An "Information Please" Program

At the annual meeting of the Seventh District Branch, held at the Oak Hill Country Club in Rochester on Thursday, September 22, 1938, something rather new in medical programs was undertaken

An attempt was made to attract members to the forenoon session which in previous years has apparently been difficult. The idea was to make the program of a popular nature. Therefore, the session opened at 9 50 with the showing of the sound motion picture, *The Birth of a Baby*, produced under the sponsorship of the American Committee on Maternal Welfare. This showing apparently met with unanimous approval. The picture is as near perfect in details as can be, and is not an amateur production. It was shown under ideal conditions by means of a portable apparatus set up in the large lounge of the country club.

The morning session closed with a popular address by Dr Wm N Macartney of Fort Covington, N Y, author of *Fifty Years a Country Doctor*, a very popular "best seller."

When the doctors registered and purchased dinner tickets, they were offered a choice of four luncheon-forums. These forums were held simultaneously while the members were served luncheon in different rooms of the clubhouse. During the serving of the luncheon written questions were prepared by those in the session, and these questions were answered by a group of experts who were specialists,

each in his own field. The topics were as follows:

"Gastrointestinal Problems," with Dr A H Aaron of Buffalo as chairman, "Modern Drug Therapy," with Dr James H Sterner of Rochester as chairman, "Children in Health and Disease," with Dr Albert D Kaiser of Rochester as chairman, and "Pneumococcal Infections," with Dr David B Jewett of Rochester as chairman.

The committee of experts in each group included from three to twelve specialists. The most popular group apparently was the one on modern drug therapy, but it was surprising how evenly the two hundred and forty-nine in attendance were divided among the four groups.

With one exception this was the largest meeting of the Seventh District Branch ever held, this in spite of rain which continued all day long.

The success of this meeting is attributed to the following: (1) early selection of the date of the meeting and good publicity, (2) a large, hard working committee on local arrangements and program, headed by Dr B J Slater, (3) a division of labor among a comparatively large number of workers, each one doing his own job well, (4) an attractive program beginning on time and closing promptly when the work was done, and (5) an attractive meeting place with facilities to take good care of a large crowd.

A high standard has been set for future meetings.

Respectfully submitted,

ALFRED W ARMSTRONG, *President*

## Report of the Eighth District Branch

*To the House of Delegates  
Gentlemen*

The annual meeting was the only significant activity of the Eighth District Branch during the year 1938. It was held at the City Hospital in Buffalo, October 4. Well over a hundred members were present from the eight component County Societies.

The forenoon was devoted to clinics given by Staff Members in various departments of the hospital. Medical Clinics included arthritis, pneumonia, anemias, tuberculosis, and ward rounds with bedside demonstrations.

The Surgical Department held operative demonstrations, clinics in urology, proctology, and fractures.

Dermatology and syphilology departments gave demonstrations of common skin diseases, all stages of syphilis, and discussed problems of therapy. A résumé

of interesting cases was given by the Department of Roentgenology.

The large number and variety of clinics assured each member the opportunity to observe work in which he was especially interested. Many comments indicated that the clinic morning was much enjoyed.

The afternoon session was opened with a short address by Dr. William A. Groat, President of the State Society. Two presentations of unusual interest completed the scientific session. Dr. Walter A. Bastedo of New York discussed "Stomach Remedies New and Old." "Fact and Fiction in the Treatment of Deficiency Diseases" was presented by Dr. William P. Murphy of Boston.

Respectfully submitted,  
L. L. KLOSTERMYER, *President*

February 21, 1939

---

# Medical Society of the State of New York

Annual Meeting, Syracuse, April 24, 25, 26, 27, 1939

*All meetings will be held by Eastern Standard Time*

## House of Delegates

The regular Annual Meeting of the House of Delegates of the Medical Society of the State of New York will be called to order at 10 00 A M on Monday, April 24, in the ballroom of the Hotel Syracuse

JAMES M FLYNN, M D , *Speaker*

PETER IRVING, M D , *Secretary*

## Annual Meeting

The Annual Meeting of the Medical Society of the State of New York will be held on Tuesday, April 25, at 7 00 P M , in the ballroom of the Hotel Syracuse

WILLIAM A GROAT, M D , *President*

PETER IRVING, M D , *Secretary*

## Registration

Registration will be held in the Hotel Syracuse for Delegates on Monday, April 24 Members are expected and requested to register at either the Hotel Syracuse or the Hotel Onondaga April 24, 25, 26, 27, from 9 00 A M to 6 00 P M

## Exhibits

Scientific and Technical Exhibits will be located in both hotels

## Scientific Sessions

General Sessions on Tuesday and Thursday afternoons in the Hotel Syracuse

Section meetings on Tuesday morning, Wednesday morning and afternoon, and Thursday morning, will be held in both the Hotel Syracuse and the Hotel Onondaga as shown in the program

## 133rd Annual Meeting

The Hotel Syracuse, ballroom—Tuesday, April 25, 7 00 P M

Calling the Society to order by the President, William A Groat, M D

Reading of the minutes of the 132nd Annual Meeting by the Secretary, Peter Irving, M D

## The Annual Banquet

The Annual Banquet will be held in the ballroom of the Hotel Syracuse on Tues-

day, April 25, at 7 00 P M Addresses will be given by

Alexander Woolcott, Guest,

Logan Clendening, M D , Guest,

Irvin Abell, M D , President of the American Medical Association,

William A Groat, M D , President of the Medical Society of the State of New York,

Terry M Townsend, M D , President-Elect of the Medical Society of the State of New York

Requests for tickets and reservations should be sent to Dr H Walden Retan, Chairman, Arrangements Committee, 713 East Genesee St , Syracuse Telephone Syracuse 2-1131 Tickets will be \$5 00

## Informal Dinner and Entertainment

On the next evening, Wednesday, April 25, in the ballroom of the Hotel Syracuse there will be an informal dinner, followed by an entertainment Tickets will be \$2 00, to be obtained from Dr Retan

*For those who make early reservations for the banquet and the dinner the combination price will be \$6 00 Early reservation is strongly advised, and groups are encouraged for tables of ten*

## The Woman's Auxiliary

The headquarters will be in the Hotel Onondaga, and the ladies are asked to register at the registration desk in the lobby after 9 00 A M Monday, April 24

Monday will be given over to meetings of the Executive Board and House of Delegates of the Auxiliary in the Roof Garden

The dinner will be held in the Roof Garden at 7 00 P M Tickets should be secured before 4 00 P M at the registration desk

A Hobby Show will begin Monday and continue through the four days

On Tuesday there will be a luncheon at the Onondaga Golf and Country Club Apply at registration desk

On Wednesday there will be a musicale at the Syracuse Museum of Fine Arts, 407 James Street, to be followed by a tea

# Scientific Program

*[All papers read before the Society by members become the property of the Society. The original copy of each paper shall be left with the chairman of the meeting.]*

## GENERAL SESSIONS

Place of Meeting Hotel Syracuse, Ballroom

Tuesday, April 25—2 00 P M

### EMERGENCIES—THEIR RECOGNITION AND TREATMENT

As evidenced by mortality statistics, many of the emergencies met with in daily practice are still not being recognized sufficiently early to save lives, or are not being treated in the manner which has been shown to be most effective. This practical program of thirty minute talks should do much to clear up some popular misconceptions

#### 1 THE ACUTE ABDOMEN

Thew Wright, M D F.A.C.S., Professor of Surgery University of Buffalo School of Medicine, Buffalo

#### 2 OBSTETRICAL EMERGENCIES

Edward A. Schumann, M D F.A.C.S. Professor of Obstetrics University of Pennsylvania School of Medicine, Philadelphia (Invited Guest)

#### 3 ACUTE CEREBRAL EMERGENCIES

Orman C. Perkins, M D F.A.C.P. Professor of Clinical Neurology Long Island College of Medicine Brooklyn

#### 4 CARDIAC EMERGENCIES

Edward C. Reifstein, M D F.A.C.P. Professor of Medicine Syracuse University College of Medicine Syracuse

Thursday, April 27—2 00 P M

### CHRONIC DISEASES—THEIR EARLY RECOGNITION

Unfortunately, many serious chronic diseases are not recognized until they have advanced to an incurable stage, or until they appear as serious complications in the treatment of some new, acute disease. The following program of thirty minute practical talks stressing early diagnosis should prove of unusual interest.

#### 1 THE EARLY EVIDENCE OF CARDIOVASCULAR DISEASE

Samuel A. Levine, M D., F.A.C.P. Assistant Professor of Medicine Harvard University Medical School Boston (Invited Guest)

#### 2 THE EARLY DIAGNOSIS OF CANCER (The A. Walter Sulter Lectureship)

(This will be the first lecture to be delivered under this new lectureship fund set up for the Medical Society of the State of New York by the will of the late Dr. A. Walter Sulter of Herkimer President of the Society in 1892.)

Francis Carter Wood, M D Professor of Cancer Research, Columbia University College of Physicians and Surgeons New York

### 3 EARLY DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS

James Alexander Miller, M D , F A C P ,  
Professor of Clinical Medicine, Columbia Uni-  
versity College of Physicians and Surgeons,  
New York

### 4 EARLY RECOGNITION OF MENTAL DISEASES AND THEIR TREATMENT

Clarence O Cheny, M D , Professor of Clinical  
Psychiatry, Cornell University Medical College,  
New York

## THE SECTIONS

*[All papers read before the Society by members become the property of the Society The original copy of each paper shall be left with the Secretary of the Section Discussers should have their remarks typed and hand them to the Secretary Time limits twenty minutes for each paper, five minutes for individual discussion Section meetings shall begin promptly at the hour specified*

*[At some period in the meetings, an executive session will be held for the purpose of electing officers for the ensuing year ]*

### SECTION ON DERMATOLOGY AND SYPHILOLOGY

Chairman  
Secretary

Mark Heiman, M D , Syracuse  
Timothy J Riordan, M D , New York

Place of Meeting Hotel Onondaga, Tudor Room

Wednesday, April 26—10 00 A M.

#### 1 BOWEN'S DISEASE OF THE MUCOUS MEMBRANE—REVIEW OF THE LITERATURE AND REPORT OF TWO CASES

Anthony C Cipollaro, M D , New York,  
and Paul D Foster, M D , Los Angeles, Cali-  
fornia (Invited Guest)

DISCUSSION Timothy J Riordan, M D ,  
New York

#### 2 THE TREATMENT OF ROENTGEN RAY BURNS AND OTHER SUPERFICIAL DISFIGUREMENTS OF THE SKIN

A Benson Cannon, M D , New York

DISCUSSION Earl L Eaton, M D , Buffalo

#### 3 SENSITIZATION TO SIMPLE CHEMICALS—V COMPARISON BETWEEN REACTIONS TO COMMERICAL AND PURIFIED DYES

Rudolph M Hecht, M D , Chicago, Illinois  
(Invited Guest), Ludwig Schwarzschild, M D ,  
New York, and Marion B Sulzberger, M D ,  
New York

DISCUSSION Earl D Osborne, M D , Buffalo

#### 4 THE ROLE OF BUROW'S SOLUTION IN DERMATOLOGY

Frank C Combes, M D , New York

DISCUSSION Edward R Maloney, M D ,  
New York

Thursday, April 27—10.00 A M.

#### 1 CAN SYPHILIS EXIST APART FROM SEX?

E Herndon Hudson, M D , Clifton Springs

DISCUSSION Howard Fox, M D , New York

#### 2 SYPHILIS AND PREGNANCY

Girsch D Astrachan, M D , New York

DISCUSSION John R Schermerhorn, M D ,  
Schenectady

## 3. LYMPHOGRANULOMA VENEREUM

Arthur W. Grace, M.D., New York

DISCUSSION David Bloom, M.D., New York

## 4. PSORIASIS—WHAT TO DO ABOUT IT

Herbert H. Bauckus, M.D., Buffalo and  
Albin V. Kwak, M.D., Buffalo

DISCUSSION Rudolph Ruedemann, Jr., M.D., Albany

## 5. THE ROLE OF THE ENDOCRINES IN DERMATOLOGY

Joseph Jordan Eller, M.D., New York, and  
Lloyd H. Kest, M.D., Cleveland, Ohio (Invited Guest)

DISCUSSION John H. Hunt, M.D., Elmira

## SECTION ON GASTROENTEROLOGY AND PROCTOLOGY

Chairman

Albert F. R. Andresen, M.D., Brooklyn

Vice Chairman

Harry C. Guess, M.D., Buffalo

Secretary

John L. Kantor, M.D., New York

Place of Meeting Hotel Syracuse, Parlors A, B, and C

Wednesday, April 26—10 00 A.M.

## ROUND TABLE PROGRAM

A series of questions on subjects in the field of gastroenterology, submitted in advance in answer to the questionnaire published in the *New York State Journal of Medicine*, will be discussed in turn by the members of the Round Table Group, as follows

## 1. FROM THE STANDPOINT OF THE GENERAL INTERNIST

Alexander Lambert, M.D., New York

## 2. FROM THE STANDPOINT OF THE GASTROENTEROLOGICAL INTERNIST

Abraham H. Aaron, M.D., Buffalo and I.  
Harris Levy, M.D., Syracuse

## 3. FROM THE STANDPOINT OF THE RADIOLOGIST

James M. Flynn, M.D., Rochester

## 4. FROM THE STANDPOINT OF THE SURGEON

Robert F. Barber, M.D., Brooklyn

General discussion and questions from the floor will be encouraged.

Thursday, April 27—10 00 A.M.

## 1. PRIMARY ILEOCECAL TUBERCULOSIS

Burrill B. Crohn, M.D., New York

DISCUSSION Homer L. Sampson, Ph.D.,  
Saranac Lake (Invited Guest) and T. Banford  
Jones, M.D., Rochester

## 2. SURGICAL TREATMENT OF DIVERTICULITIS

Thomas E. Jones, M.D., Cleveland, Ohio  
(Invited Guest)DISCUSSION Frank C. Yeomans, M.D., New  
York, and Frederick S. Wetherell, M.D., Syra  
cuse

## 3. EXTRA RECTAL METASTATIC MALIGNANCY SIMULATING PRIMARY CARCINOMA OF THE RECTUM

Harry E. Bacon, M.D., Philadelphia (Invited Guest)

DISCUSSION A. W. Martin Marino, M.D.,  
Brooklyn, and Herbert A. Smith, M.D., Buffalo

## 4. TREATMENT OF OPERABLE RECTAL CANCER

George E. Binkley, M.D., New York

DISCUSSION John C. M. Brust, M.D.,  
Syracuse, and Burton T. Simpson, M.D.,  
Buffalo



## SECTION ON INDUSTRIAL MEDICINE AND SURGERY

Chairman  
Secretary

Dan Mellen, M D , Rome  
Irving Gray, M D , Brooklyn

Place of Meeting Hotel Syracuse, Parlor D

Tuesday, April 25—10.00 A M.

- |  |  |
|--|--|
| <p>1 INDUSTRIAL EXPERIENCE IN 25 CASES OF SPONTANEOUS PNEUMOTHORAX<br/>John L Norris, M D , Rochester</p> <p>2 TUBERCULOSIS AS AN OCCUPATIONAL DISEASE AMONG NURSES<br/>Leopold Brahdy, M D , New York</p> <p>3 TRAUMA IN RELATION TO PULMONARY TUBERCULOSIS</p> | <p>Charles E Hamilton, M D , Brooklyn<br/>DISCUSSION Thomas A McGoldrick, M D , Brooklyn, and George G Ornstein, M D , New York</p> <p>4 THE PRESENT STATUS OF THE PROBLEM OF SILICOSIS<br/>Leonard Greenburg, M D , New York<br/>DISCUSSION John J Lloyd, M D , Rochester</p> |
|--|--|

## JOINT MEETING

## SECTION ON INDUSTRIAL MEDICINE AND SURGERY

with the

## SECTION ON ORTHOPEDIC SURGERY

Place of Meeting Hotel Syracuse, Ballroom

Wednesday, April 26—10 00 A.M.

## SYMPOSIUM ON THE INDUSTRIAL LOW BACK

- 1 THE INDUSTRIAL LOW BACK FROM THE ORTHOPEDIC STANDPOINT  
Samuel Kleinberg, M D , New York
- 2 THE NEUROLOGICAL ASPECTS OF BACKACHE  
Emanuel D Friedman, M D , New York
- 3 HERNIATIONS OF THE NUCLEUS PULPOSUS AND HYPERTROPHIED LIGAMENTA FLAVA  
David M Bosworth, M D , New York, and  
Clarence C Hare, M D , New York  
DISCUSSION ON SYMPOSIUM Raphael Lewy, M D , New York, Lewis Clark Wagner, M D , New York, and Edward K. Cravener, M D , Schenectady

## SECTION ON MEDICINE

Chairman  
Secretary

Byron D. Bowen, M.D., Buffalo  
Frederic C. Conway, M.D., Albany

Place of Meeting Hotel Onondaga, Roof Garden

## Wednesday, April 26—10 00 A.M.

- |   |   |
|---|---|
| <p>1. SEROLOGICAL TESTS AS AIDS TO THE DIAGNOSIS AND PROGNOSIS OF SYPHILIS<br/>Augustus B. Wadsworth, M.D., Albany</p> <p>2. TREATMENT OF DELAYED PUBERTY IN THE ADOLESCENT MALE<br/>Bruce Webster, M.D. New York</p> <p>3. CHRONIC PYELONEPHRITIS—A CAUSE OF</p> | <p>KIDNEY INSUFFICIENCY AND HYPERTENSION<br/>William S. McCann, M.D. Rochester</p> <p>4. A STUDY OF HYPNOTICS—THEIR EFFECT ON BLOOD PRESSURE PULSE, RESPIRATION AND SLEEP MOVEMENTS<br/>Frank Meyers, M.D. Buffalo and Edward DeW. Cook, M.D. Buffalo</p> |
|---|---|

## Thursday, April 27—10 00 A.M.

- |   |   |
|---|---|
| <p>1. GIANT FOLLICLE LYMPHOBLASTOMA—A HIGH VARIETY OF LYMPHOSARCOMA<br/>George Baehr, M.D. New York and Paul Klempner, M.D. New York</p> <p>2. DELETERIOUS EFFECTS OF DEEP X RAYS ON LUNG STRUCTURE AND FUNCTION<br/>Victor C. Jacobsen, M.D., Troy</p> | <p>3. TREATMENT OF PNEUMONIA WITH RABBIT SERUM<br/>Richard H. Bennett, M.D. Brooklyn</p> <p>4. WEIL'S DISEASE<br/>Elliston Farrell, M.D. Brooklyn</p> |
|---|---|

## SECTION ON NEUROLOGY AND PSYCHIATRY

Chairman  
Secretary

Paul H. Garvey, M.D., Rochester  
Henry W. Miller, M.D., Brewster

Place of Meeting Hotel Syracuse, Parlors A, B, and C

## Tuesday, April 25—10 00 A.M.

- |   |  |
|---|--|
| <p>1. BENIGN INTRAVENTRICULAR TUMORS THEIR DIAGNOSIS AND TREATMENT<br/>Eldridge H. Campbell, Jr., M.D. Albany<br/>DISCUSSION John E. Scarff M.D. New York</p> <p>2. DOCTORS, LAWYERS, AND INJURED BRAINS<br/>Irving J. Sands, M.D. Brooklyn</p> | <p>DISCUSSION Orman C. Perkins, M.D. Brooklyn and George J. Swetlow M.D. Brooklyn</p> <p>3. OTOGENOUS PARIETAL CEREBRAL ABSCESS DUE TO PNEUMOCOCCUS TYPE III—RECOVERY AFTER DRAINAGE SPECIFIC ANTI</p> |
|---|--|

SERUM AND SULFANILAMIDE—REPORT OF A CASE

Wallace B Hamby, M D , Buffalo, and Clayton W Greene, M D , Buffalo

DISCUSSION William P Van Wagenen, M D , Rochester, and J Worden Kane, M D , Binghamton

4 THE VALUE OF BLOOD SEDIMENTATION RATE IN INTRACRANIAL TUMORS

Walter O Klingman, M D , New York, and Robert W Laidlaw, M D , New York

DISCUSSION Leon H Cornwall, M D , New York, and Foster Kennedy, M D , New York

Wednesday, April 26—2 00 P M

1 THE USE OF AMPHETAMINE (BENZEDRINE) SULFATE IN ALCOHOLISM WITH AND WITHOUT PSYCHOSIS

Edward C Reifenstein, Jr, M D , Syracuse, and Eugene Davidoff, M D , Syracuse

DISCUSSION Wardner D Ayer, M D , Syracuse, and Albert B Siewers, M D , Syracuse

2 ANXIETY IN RELATIONSHIP TO HYPERTHYROIDISM

Gilbert M Beck, M D , Buffalo

DISCUSSION George E Beilby, M D , Albany, and John J Rooney, M D , Rochester

3 ACUTE DEMYELINIZING PROCESSES IN THE NERVOUS SYSTEM

Andrew J E Akelaitis, M D , Rochester, and Paul H Garvey, M D , Rochester

DISCUSSION Joseph H Globus, M D , New York

4 THE TEACHING AND PRACTICE OF NEUROLOGY AND PSYCHIATRY IN THE OUTPATIENT DEPARTMENT

Noble R. Chambers, M D , Syracuse

DISCUSSION J G Fred Hiss, M D , Syracuse and Harry A Steckel, M D , Syracuse

SECTION ON OBSTETRICS AND GYNECOLOGY

Chairman

William T Kennedy, M D , New York

Secretary

Edward P McDonald, M D , New York

Place of Meeting Hotel Onondaga, Roof Garden

Tuesday, April 25—9 45 A.M

1 SIMPLE METHOD OF ROENTGEN PELVIMETRY (Lantern Slides)

Jacob Fierstein, M D , New York

2 RADIUM IN THE TREATMENT OF CANCER OF THE FUNDUS UTERI—ISODOSE CURVES WITH NEW APPLICATORS

Hyman Strauss, M D , Brooklyn

DISCUSSION Nelson B Sackett, M D , New York

3 STUDY OF CESAREAN SECTIONS FOR TEN YEARS

James Knight Quigley, M D , Rochester

DISCUSSION Edward P McDonald, M D , Albany

4 ROENTGEN RAY THERAPY OF ACUTE MASTITIS DURING LACTATION

Harriet C McIntosh, M D , New York

## 5. UROLOGICAL COMPLICATIONS IN GYNECOLOGY

Arthur J. Murphy, M.D. New York

DISCUSSION William A. Milner, M.D. Albany

## 6. INDICATIONS FOR OESTROGEN THERAPY IN GYNECOLOGY

Samuel H. Geist, M.D. New York, and  
Udall J. Salmon, M.D. New York

DISCUSSION C. Arthur Elden, M.D. Rochester

## Wednesday, April 26—2 00 P.M.

## 1. EXPERIENCES WITH VAGINAL HYSTERECTOMY BY THE CLAMP METHOD

Milton G. Potter, M.D. Buffalo

DISCUSSION David Nye Barrows, M.D. New York

## 2. THE VALUE OF ENDOMETRIAL BIOPSIES IN ENDOCRINE DISORDERS

Daniel R. Mishell, M.D. Newark, New Jersey  
(Invited Guest)

## 3. CONGENITAL ABSENCE OF THE VAGINA—FEATURES MODIFYING AND SIMPLIFYING THE PROCEDURES FOR RECONSTRUCTION

Nathan P. Sears, M.D. Syracuse

## 4. THE ETIOLOGY AND TREATMENT OF TRUE TOXEMIA OF PREGNANCY

Maurice B. Strauss, M.D. Boston, Massachusetts  
(Invited Guest)

DISCUSSION Edward C. Hughes, M.D. Syracuse

## SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Chairman  
SecretaryAlgernon B. Reese, M.D., New York  
Chester C. Cott, M.D., Buffalo

Place of Meeting Hotel Syracuse, Parlor D

## Wednesday, April 26—10 00 A.M.

*Instruction Hour 9 00 A.M. to 10 00 A.M.*

## THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CORNEA

Trygve Gunderson, M.D. Boston, Massachusetts  
(Invited Guest)

## 2. THE SPASMOGENIC TENDENCY AND ITS EFFECT ON THE EYES

Robert K. Lambert, M.D. New York

DISCUSSION Charles A. Perera, M.D. New York  
Harold VanLammers, M.D. Flushing  
and Macy L. Lerner, M.D. Rochester

## 1. DACRYOCYSTITIS OF THE NEWBORN

Harry V. Judge, M.D., Albany

DISCUSSION Mortimer A. Lasky, M.D. Brooklyn  
James I. Farrell, M.D. Utica, and  
Jason L. Wiley, M.D. Auburn

## 3. THE OPERATIVE TREATMENT OF CATARACT OTHER THAN THE SENILE TYPE

Thurber LeWin, M.D. Buffalo

DISCUSSION Lawrence E. Henderson, M.D. Watertown  
Walter V. Moore, M.D., Brooklyn  
and Frank M. Sulzman, M.D. Troy

## SECTION ON SURGERY

Chairman  
Secretary

Clarence V Costello, M D , Rochester  
Frederick S Wetherell, M D , Syracuse

Place of Meeting Hotel Syracuse, Ballroom

Tuesday, April 25—10.00 A.M.

1 THE USE OF PEDICLE FLAPS FOR THE STUDY  
OF HEALING IN HUMAN SKIN

Leon E Sutton, M D , Syracuse

DISCUSSION Gustave Aufricht, M D , New  
York

2 THE USE OF SULFANILAMIDE IN THE TREAT-  
MENT OF HEMOLYTIC STREPTOCOCCUS

Leon J Leahy, M D , Buffalo

DISCUSSION William J Orr, M D , Buffalo

3 PERITONEOSCOPY

C Douglas Sawyer, M D , Brooklyn

DISCUSSION Thomas M Brennan, M D ,  
Brooklyn, and Charles H Goodrich, M D ,  
Brooklyn

4 THE ADVANTAGES OF SILK IN GENERAL  
SURGERY

Donald Guthrie, M D , Sayre, Pennsylvania  
(Invited Guest)

DISCUSSION Frank L Meleney, M D , New  
York

Wednesday, April 26—2:00 P.M.

1 REDUCE HEAD INJURY MORTALITY

Fred W Geib, M D , Rochester

DISCUSSION Eldridge H Campbell, Jr ,  
Albany

2 INFECTIONS OF THE NECK

Albert G Swift, M D , Syracuse

DISCUSSION Chas Gordon Heyd, M D ,  
New York, and James A Fisher, M D , Asbury  
Park, New Jersey (Invited Guest)

3 ACUTE PANCREATITIS

John J Morton, Jr., M D , Rochester

DISCUSSION William Barclay Parsons, M D ,  
New York

## SECTION ON UROLOGY

Chairman  
Vice-Chairman  
Secretary

Francis N Kimball, M D , New York  
John E Heslin, M D , Albany  
Leo E Gibson, M D , Syracuse

Place of Meeting Hotel Onondaga, Oak Room

Tuesday, April 25—10:00 A M

1 SERIAL PYELOGRAMS IN NEPHROPTOSIS

George Aubrey Hawes, M D , New York  
(Invited Guest)

2 THE VALUE OF STEREOSCOPIC PNEUMO-

PYELOGRAPHY IN THE DIAGNOSIS OF RENAL  
AND URETERAL CALCULI

Winfield W Scott, M D , Rochester, and John  
A Benjamin, Jr , M D , Rochester (Invited  
Guest)

DISCUSSION Elmer Hess, M.D., Erie, Penn  
sylvania (Invited Guest) Augustus Harris, M.D.  
Brooklyn, Thomas F. Laurie, M.D. Syracuse  
and A. Laurence Parlow, M.D. Rochester

3. CLINICAL REVIEW OF 350 CONSECUTIVE  
CASES OF URETERAL CALCULI—SYMPTOMA  
TOLOGY DIFFERENTIAL DIAGNOSIS, TREAT  
MENT AND END RESULTS

Charles Clair Higgins, M.D. Cleveland, Ohio  
(Invited Guest)

DISCUSSION Terry M. Townsend, M.D.  
New York, James B. Cross M.D. Buffalo  
J. Sturdivant Read, M.D. Brooklyn, Frank C.  
Hamm M.D. Brooklyn and Francis P. Twi  
nem M.D. New York

### Wednesday, April 26—2 00 P.M.

1. SUBCAVAL URETER

Francis O. Harbach, M.D. Syracuse

DISCUSSION Thomas J. Kirwin, M.D. New  
York and Fedor L. Senger M.D. Brooklyn

2. PROSTATIC OBSTRUCTION—MEDICAL AND  
SURGICAL ASPECTS

Hugh H. Young, M.D. Baltimore Maryland  
(Invited Guest)

DISCUSSION Maximilian A. Ramirez, M.D.  
New York Alexander R. Stevens M.D., New  
York Oswald S. Lowsley M.D. New York  
Clarence G. Bandler M.D. New York Roy B.  
Henline M.D. New York and John E. Heslin  
M.D. Albany

## THE SESSIONS

### SESSION ON PHYSICAL THERAPY

Chairman  
Secretary

Madge C. L. McGuinness, M.D., New York  
Harold J. Harris, M.D., Westport

Place of Meeting Hotel Onondaga, Oak Room

### Wednesday, April 26—10 00 A.M.

Address PHYSICAL THERAPY AS A USEFUL  
ADJUVANT IN PROBLEMS OF REHABILITATION

Madge C. L. McGuinness, M.D. New York

1. CHRONIC ARTHRITIS—DIFFERENTIAL DIAG  
NOSIS—SPECIAL TREATMENT METHODS MEDI  
CAL, ORTHOPEDIC, PHYSICAL THERAPY

Bernard L. Wyatt, M.D. Robert A. Hicks,  
M.D., and Harry E. Thompson, M.D. Tucson,  
Arizona (Invited Guests)

2. THE ROLE OF POSTURE IN CHRONIC AR  
THRITIS

Henry Jordan, M.D. New York

3. PROPHYLACTIC EXERCISES FOR CHILDREN

Jerome Weiss, M.D. Brooklyn, and Hans J.  
A. Behrend, M.D. New York

DISCUSSION Harold J. Harris, M.D. West  
port Madge C. L. McGuinness M.D. New  
York and Samuel Kleinberg M.D. New York

4. HAVE SPAS AN ESSENTIAL PLACE IN THE  
NATIONAL ECONOMY AND HOW RESPONSIBLE  
IS ORGANIZED MEDICINE IN EFFORTS TO  
PROMOTE AND CONTROL THEIR ACTIVITIES?

John Carroll, M.D. New York

DISCUSSION Walter S. McClellan M.D.  
Saratoga

## SESSION ON REGIONAL AND GENERAL ANESTHESIA

Chairman

S LeRoy Sahler, M D , Rochester

Vice-Chairman

T Drysdale Buchanan, M D , New York

Secretary

Frederick A D Alexander, M D , Albany

Place of Meeting Hotel Syracuse, Parlor E

Thursday, April 27—9·45 A.M

## 1 AN EVALUATION OF INTRAVENOUS ANESTHESIA

Ralph M Tovell, M D , Hartford, Connecticut, and Mario Garofalo, M D , Hartford, Connecticut (Invited Guests)

DISCUSSION Paul M Searles, M D , Buffalo (Invited Guest), and L Franklin Anderson, M D , Buffalo

## 2 RESPIRATORY DISTURBANCES DURING ANESTHESIA ATTRIBUTABLE TO SEDATIVE MEDICATION—A CLINICAL AND LABORATORY STUDY

Charles L Burstein, M D , New York

DISCUSSION Frederick A D Alexander,

M D , Albany, and Virginia Apgar, M D , New York

## 3 THE MANAGEMENT OF COMPLICATIONS ARISING DURING CYCLOPROPANE ANESTHESIA

Harold R. Griffith, M D , Montreal, Canada (Invited Guest)

DISCUSSION Emery A Rovenstein, M D , New York, and John C Dessloch, M D , Rochester

## 4 STUDIES IN RESUSCITATION

William Branower, M D , New York

DISCUSSION John H Evans, M D , Buffalo, and Charles J Wells, M D , Syracuse

## Scientific Exhibit

## HOTEL ONANDAGA

[All exhibits must be in place on Monday, April 24, 1939, at noon and must remain until Thursday noon, April 27 ]

1

Jacob Fierstein, M D

Greenpoint Hospital

Brooklyn

**RAPID ROUTINE ROENTGEN PELVIMETRY** A simple procedure that can be carried out with any standard x-ray installation, without special accessories No calculation is required, although the procedure is mathematical It can be performed accurately without extensive experience

## 2

Louis C. Kress, M D  
Division of Cancer Control  
State Department of Health  
State Institute for the Study of Malignant Diseases  
Buffalo

**CANCER OF THE BREAST** Transparencies in illuminated frames depicting cancer in various stages before and following different types of therapy with special reference to the evaluation of preoperative radiation

## 3

Arthur J. Bedell, M D  
Albany

**COLORED FUNDUS PHOTOGRAPHS** 150 direct color photographs, covering major ophthalmoscopic changes of constitutional disease, tuberculosis, syphilis, pernicious anemia, diabetes, hypertension, papillitis including illustrations from several types of brain tumor injury and many other conditions.

## 4

New York State Medical Library  
State Education Department  
Albany

**POSTERS, BOOKS AND JOURNALS** A representative of the library will be present to answer all questions concerning the services of the library. The New York State Medical Library cordially urges all of the members of the Medical Society of the State of New York to use their library in the Education Building, Albany. There are over 45,000 volumes in the Medical Library and over 500 periodicals received currently. Special books are sent to the borrower on request or selected material will be sent if the subject desired is given. This service is extended without charge, to physicians and nurses registered in New York State. The only obligation imposed on the borrower is the payment of the transportation charges both ways.

## 5

Maurice L. Malins, M.D.  
Sydenham Hospital  
and  
John C. Ruddock, M.D.  
University of Southern California  
Los Angeles

**PERITONEOSCOPY** Abstract of 900 cases. Description of procedure by means of charts and diagrams. Presentation of sections from biopsies with short case histories. The value of the procedure, contraindications and complications. Demonstration of special technic for determining operability of gastric malignancy, tumor masses and ectopic pregnancy.



## 6

Morris Morrison, M D  
A. A. Sammick, M.D  
Jewish Hospital  
Brooklyn

CLINICO-HEMATOLOGICAL OBSERVATIONS OF BONE MARROW A study of the bone marrow in blood dyscrasias and other conditions The bone marrow pictures are correlated with the peripheral smears Criteria for diagnosis are presented Charts summarizing the findings in 300 normal and pathological cases are presented

MOTION PICTURE

## 7

Henry C Bacon, M.D  
Henry C Schneider, M D  
Proctologic Department  
Temple University School of Medicine  
Philadelphia

EXTRA-RECTAL METASTATIC GROWTHS FROM UPPER ABDOMINAL MALIGNANCY Frequently misinterpreted and misdiagnosed are extra-rectal metastatic growths from upper abdominal and mammary malignancy This exhibit presents a diversified series of cases in color photomicrographs, x-ray findings, and moulage specimens to permit palpation and visualization of artificial growths Differential diagnosis shown by illustrations by W B McNett

## 8

C O Davison, M D  
Vassar Brothers Hospital  
Poughkeepsie

A REVIEW OF SPECIAL POSITIONS IN ROENTGENOGRAPHIC STUDY OF BONES AND JOINTS Films and diagrams will be used to demonstrate various positions that have been found useful in demonstrating fractures and pathology, sometimes overlooked in standard positions

## 9

Samuel E Last, M D  
Evangelical Deaconess Hospital  
Brooklyn

RADIOGRAPHIC VISUALIZATION OF SPERMATOCELE AND PROSTATIC ABSCESS Exhibits consist of roentgenograms visualizing spermatocele and prostatic abscess by means of new procedures using contrast media Clinical and operative findings will be demonstrated

## 10

James J. Short, M.D.  
S. Wm. Kalb, M.D.  
A. Bengelsdorf, M.D.  
Charles Weissberg, M.D.  
Obesity Clinic

New York Post Graduate Medical School and Hospital  
New York

**OBESITY PATHOLOGY, METABOLISM, AND MANAGEMENT** Mortality statistics glucose tolerance basal metabolism and total heat production dietary treatment, effect of massage artificial fever local heat on blood lipides electrocardiograph findings etc.

## 11

Edward F. Hartung, M.D.  
Louise W. Johnson, A.B.  
Jessie R. McKelvey, B.S.  
Arthritis Clinic

New York Post Graduate Medical School and Hospital  
New York

**POSTURE RECORDING AND RESULTS OF POSTURAL TREATMENT IN CHRONIC RHEUMATISM** A method of recording posture practicable for clinic workers is described. The results of corrective measures on postural defects in patients with chronic rheumatism are portrayed.

## 12

C. R. Straatsma, M.D.  
New York Post-Graduate Medical School and Hospital  
and  
Manhattan Eye, Ear and Throat Hospital  
New York

**PLASTIC SURGERY** Exhibit will consist of photographs and casts of various plastic procedures and results of the head neck and extremities.

## 13

Henry M. Johnson, M.D.  
James J. Short, M.D.  
J. Ramser Crawford, M.D.  
The Life Extension Examiners  
New York

**THE PERIODIC HEALTH EXAMINATION** Tables, charts, graphs diagrams and x-rays showing types and incidence of findings in the periodic health examination.

## 14

C. Douglas Sawyer, M.D.  
Methodist Episcopal Hospital  
Brooklyn

**THE CLINICAL USES OF SODIUM HYPOCHLORITE** A demonstration of methods of use in the prevention of infection in traumatic cases and in treating the various types of suppuration. Also a statistical study of results in over 500 cases treated with sodium hypochlorite and the evaluation of the results.

## 15

William A. Howes, M D  
Brooklyn Cancer Institute  
Brooklyn

## THE CURABILITY OF SKIN CANCER

## 16

Mortimer M Kopp, M D  
Lutheran Hospital  
New York

RHINOPLASTIC SURGERY Photographic transparencies of all forms of rhinoplastic surgical procedures Moulages demonstrating subcutaneous structures and procedures  
MOTION PICTURE Typical Rhinoplastic Procedure

## 17

Henry D Niles, M D  
Skin and Cancer Unit  
New York Post-Graduate Medical School and Hospital  
New York

CUTANEOUS MANIFESTATIONS OF THE DISEASES OF THE BLOOD-FORMING ORGANS  
Charts and clinical and microscopic photographs showing skin changes associated with the diseases of the blood-forming organs

## 18

Benjamin Jablons, M D  
Stuyvesant Polyclinic Hospital  
New York

CLINICAL DIAGNOSIS AND TREATMENT OF PERIPHERAL VASCULAR DISEASE Charts showing the effect of organ extracts on surface temperature of the extremities and oscillometric readings in vasoneuroses, thromboangitis obliterans, and arteriosclerosis obliterans

MOTION PICTURE Color film containing classification, symptomatology, and methods of eliciting symptoms, including oscillometry, surface temperature determinations, capillary microscopy, and electromyography

## 19

William A Groat, M D  
Stella M Zimmer, R.N  
Rachael E Field, M.A  
College of Medicine, Syracuse University, and  
Hazard Memorial Laboratory  
Syracuse Memorial Hospital  
Syracuse

ACUTE BASOPHILIC LEUKEMIA-DEVELOPMENT OF THE BASOPHIL Series of photomicrographs 2400 from blood, biopsy marrow, and autopsy marrow showing all stages of development of the abnormal basophil from primitive myeloblast to full maturity are shown Charts show the progress of the case and blood changes from day to day

## 20

John B. Alsever, M.D.  
Charles A. Gwynn, M.D.  
Department of Clinical Pathology and Obstetrics  
College of Medicine Syracuse University  
Hendricks Research Fund  
Syracuse

THE COLLECTION AND PRESERVATION OF PLACENTAL BLOOD FOR TRANSFUSION PURPOSES Equipment for collection, storage, and presentation transfusion with explanation of technic Experimental data on value of blood sterility etc. Specimens of preserved blood Smears Icebox in operation

## 21

Edward C. Relfenstein, Jr., M.D.  
Eugene Davidoff, M.D.  
Carl Whitaker, M.D.  
Psychopathic Hospital  
Syracuse

THE PHARMACOLOGY OF AMPHETAMINE (BENZEDRINE) SULFATE Charts will be presented illustrating the effect of Amphetamine (Benzedrine) Sulfate on blood pressure, pulse, respiration temperature, blood sugar basal metabolism rate, cellular elements of the blood, nervous and mental status and alcoholic states as determined from original investigations at the Syracuse Psychopathic Hospital by the authors.

## 22

Gustave Aufricht, M.D.  
New York Post Graduate Medical School and Hospital  
New York

FIVE OPERATIVE MOTION PICTURES (1) Large abdominal tube flap for burn scar contractions of chin, cheeks, and neck, (2) mammoplasty, (3) construction of new ear for congenital absence, (4) combined plastic for prominent hump nose and receding chin, (5) plastic for saddle nose.

## 23

A. Benson Cannon, M.D.  
Vanderbilt Clinic  
New York

COLORLED LANTERN SLIDE DEMONSTRATION OF SKIN DISEASES Colored lantern slides are presented of some of the more common skin lesions, including x ray burns pityriasis rosea, lupus fungus infections, syphilis etc. In addition several slides are shown illustrating some of the rare skin diseases, such as necrobiosis diabetorum angiodermatoma, etc

## 24

Bernard L. Wyatt, M.D.  
The Wyatt Clinic  
Tucson Arizona

CHRONIC ARTHRITIS Differential Diagnosis Special treatment methods Medical orthopedic, and physical therapy

MOTION PICTURE

## 25

Thomas G Hull, Ph D

American Medical Association  
Chicago, Illinois

**UNDERWATER THERAPY** Presentation of therapeutic use of large and small exercise pools, Hubbard tanks and home-made tanks, and demonstration of types of exercise given in cases such as infantile paralysis, cerebral palsy, and postoperative congenital dislocation of the hip

**MOTION PICTURE**

**EFFECTS OF HEAT AND COLD ON THE CIRCULATION OF THE BLOOD** Demonstration of the effect of heat and cold on circulation as seen through a glass chamber installed in a rabbit's ear

**MOTION PICTURE**

## 26

New York State Department of Health  
Albany

**THE STORY OF THE PNEUMOCOCCUS** The "Story of the Pneumococcus" is told in a series of five panels. They illustrate, respectively, the physical characteristics of the pneumococcus, how it multiplies in the lungs, its chemical structure and biological characteristics, the defense mechanism set up within the human body, and the reasons for early and intensive serum treatment for those types of the disease for which serum has been shown to be effective. Each panel is supplemented by a typewritten footnote, the contents of which are not essential to an understanding of the main subject matter but which provide more detailed information for those who may be particularly interested.

## 27

O W H Mitchell, M D

College of Medicine, Syracuse University  
Syracuse

**INCIDENCE OF GAS BACILLUS INFECTION IN NEW YORK STATE** Statistical analysis of cases of Gas Bacillus Infection (Gangrene) in New York State in recent years

---

**SCIENTIFIC MOTION PICTURE EXHIBIT**

These films will be shown in the Louis Room of the Hotel Onondaga

# The Woman's Auxiliary

To the Medical Society of the State of New York

Mrs Daniel J Swan, President

Mrs John J Beuttner, Chairman of Convention

Convention Headquarters—Onondaga Hotel, Syracuse

Only a month until the 4th convention of the Woman's Auxiliary of the State of New York in Syracuse Your committee plans have matured rapidly and we are now able to present the complete schedule of activities Please look it over carefully and see if you can really afford to miss this convention

Let me call your attention particularly to the Delegates' Dinner on Monday evening, the 24th Henry Scott, pianist and humorist, will offer many novelties in entertainment. For lovers of fine renditions of the classics, Mr Scott's educational background and his masterful technic allow him to satisfy the most critical For those who prefer popular music, he gives them their choice in the modern manner A Scott program is always received with rousing enthusiasm

We are anticipating with keen interest the 4th Hobby Show and look for a large entry of exhibits

The musicale and tea on Tuesday, the 25th, offers a charming afternoon s entertainment.

*(From Mrs John J Beuttner, Chairman of Convention)*

## Convention Program

All Doctors' wives will please register at Registration Desk in lobby, Onondaga Hotel

All Doctors' wives, whether members of a Woman's Auxiliary to a County Medical Society or not, are cordially invited to participate in all parts of the program

### Monday, April 24, 1939

|           |   |            |   |
|-----------|---|------------|---|
| 9 00 A.M. | REGISTRATION OF DELEGATES, Lobby  |            | REGISTRATION FOR LUNCHEON AND FOR TEA, Lobby            |
|           | Mrs Harry P Mencken Chairman  | 9 30 A.M.  | EXECUTIVE BOARD MEETING Roof Garden                     |
|           | Mrs. Louis A. VanKleeck, Vice-Chairman  | 10 00 A.M. | HOUSE OF DELEGATES MEETING Roof Garden                  |
|           | GENERAL REGISTRATION for all doctors wives daily to 5 00 P.M. throughout the Convention Lobby | 2 00 P.M.  | CONTINUATION OF HOUSE OF DELEGATES MEETING Roof Garden  |
|           | Mrs. Nathan P Sears, Chairman   | 2 30 P.M.  | HOBBY SHOW (to 10 00 P.M.) Parlor G Mezzanine Floor     |
|           | Mrs. George S Reed Vice-Chairman  |            | Mrs Raymond J Pieri, Chairman                           |
|           | REGISTRATION FOR AUXILIARY DINNER (to 4 00 P.M.) Lobby  |            | Mrs George A Marsden, Vice Chairman                     |
|           | Mrs Frederick J O Connor Chairman   | 7 00 P.M.  | DINNER FOR AUXILIARY MEMBERS, all Doctors Wives and Lay |

Friends (secure tickets before  
4 00 P M at Registration Desk),  
Roof Garden  
Mrs Francis R Irving, Chairman

ENTERTAINMENT (following dinner)  
—Henry Scott, widely known  
Pianist-Humorist  
Mrs H Walden Retan, Chairman

### Tuesday, April 25, 1939

9 00 A M REGISTRATION, continued, Lobby  
10 00 A M HOBBY SHOW (to 10 00 P M ), Parlor  
G, Mezzanine Floor  
10 00 A M POST-CONVENTION EXECUTIVE  
BOARD MEETING, Room 222  
1 00 P M LUNCHEON, Onondaga Golf and  
Country Club  
All visiting doctors' wives will be  
guests For luncheon and trans-  
portation, please register Monday

at Registration Desk, Lobby  
Mrs Charles D Post, Chairman  
ENTERTAINMENT (following Lunch-  
con)  
Mrs Foster C Rulison, Chairman  
Mrs Clyde O Barney, Vice-Chair-  
man  
7 00 P M BANQUET OF THE MEDICAL SOCIETY  
OF THE STATE OF NEW YORK,  
Ballroom, Hotel Syracuse

### Wednesday, April 26, 1939

9 00 A M REGISTRATION, continued, Lobby  
10 00 A M HOBBY SHOW (to 10 00 P M ), Parlor  
G, Mezzanine Floor  
SIGHTSEEING at individual pleas-  
ure  
3 00 P M MUSICAL, Syracuse Museum of  
Fine Arts, 407 James Street  
Mrs Harry L Gilmore, Chairman  
Mrs Walter W Street, Vice-Chair-  
man

TEA (following Musicale), Syracuse  
Museum of Fine Arts  
Mrs Winthrop Pennock, Chairman  
Mrs Albert A Getman, Vice-Chair-  
man  
7 00 P M INFORMAL DINNER AND ENTERTAIN-  
MENT  
Medical Society of the State of  
New York  
Ballroom, Hotel Syracuse

### Thursday, April 27, 1939

10 00 A.M CALL FOR HOBBIES (to 12 00 M )

There now—could three days possibly be more profitably spent? I  
am sure that all physicians' wives will want to attend, whether members  
of the Auxiliary or not, you will all be most cordially welcome We  
shall be looking forward to meeting you all

#### *Publicity*

Mrs Thomas M d'Angelo, Chairman of State Auxiliary  
Mrs Charles Hitchcock, Chairman of Convention  
Mrs Henry H Haft, Co-Chairman of Convention

---

# The Woman's Auxiliary

To the Medical Society of the State of New York

A MEETING of the Executive Board of the Woman's Auxiliary to the Medical Society of the State of New York was held at the Hotel Ten Eyck on February 16, 1939. The president, Mrs. Daniel Swan, welcomed the members and expressed her pleasure at seeing so many present. Those who attended were Mrs. Daniel J. Swan, president, Mrs. G. Scott Towne, president-elect, Mrs. Edwin A. Griffin, first vice-president, Mrs. Louis A. Van Kleeck, second vice president, Mrs. Henry L. Hirsch, recording secretary, Mrs. Abraham Braunstein, corresponding secretary, Mrs. Carlton Potter, treasurer, Mrs. John L. Bauer, Mrs. James M. Dobbins, Mrs. Francis R. Irving, Mrs. Herman W. Galster, directors.

Chairmen of standing committees who attended were Mrs. John Beuttner, convention, Mrs. William Godfrey, finance, Mrs. William Benenson, historian, Mrs. Horace Whitely, *Hygeia*, Mrs. Royal F. Sengstacken, legislation, Mrs. Luther H. Kice, organization, Mrs. Thomas d'Angelo, press and publicity, Mrs. Otto Pfaff, printing and supplies, Mrs. George Green, program, Mrs. J. Emerson Noll, public relations. The county presidents who attended were Mrs. Albert Van De Veer, 2nd, Albany, Mrs. Raymond F. Johnson, Cayuga, Mrs. Henry J. Noerling, Columbia, Mrs. H. L. Yokey, Jefferson, Mrs. Milton Bergmann, Kings, Mrs. Otto Pfaff, Madison, Mrs. Luther Kice, Nassau, Mrs. Harry F. Pohlmann, Orange, Mrs. George F. Marsden, Oswego, Mrs. William J. Lavelle, Queens, Mrs. James H. Donnelly, Rensselaer, Mrs. John C. Dugman, Rockland, Mrs. Mark K. Nettles, Saratoga, Mrs. Leslie Sullivan, Schenectady.

Officers, chairmen of committees, and county auxiliary presidents gave their reports on what they had done since the last board meeting. Varied and very interesting were the reports of county presidents. The promotion of *Hygeia* is

playing an important part in the work of county auxiliaries. Some auxiliaries have placed *Hygeia* in the high schools and libraries in their counties. Other auxiliaries have promoted the sale of *Hygeia* among the laymen. One auxiliary has equipped a camp for underprivileged children, another has given playground equipment to a boys' camp. Several auxiliaries are working on health institutes for the public and in another county the auxiliary conducted a contest among the high school students on health subjects. It was gratifying to our president to see what excellent work the county auxiliaries are doing and how anxious each one is to do better and greater things.

Mrs. Swan gave a report of the meeting of the board of directors of the National Auxiliary held in Chicago on November 11, 1938.

Mrs. Henry Hirsch told us of the exhibit she is planning to send to the Convention of the National Auxiliary this summer. The pet project of each county auxiliary is to be represented in this exhibit to which Mrs. Hirsch is giving a great deal of thought and time.

## County Auxiliary News

### Albany

A meeting of the Woman's Auxiliary to the Medical Society of the County of Albany was held on January 25, at the Joseph Henry Memorial. Dr. Joseph Lawrence, executive secretary of the Medical Society of the State of New York, spoke on "Recent and Pending Legislation." After the business session and program, the members of the entertainment committee acted as hostesses and served refreshments.

### Rensselaer

The Woman's Auxiliary to the Medical Society of the County of Rensselaer met



on February 14, 1939, in the Samaritan Hospital. The president, Mrs. James Donnelly, introduced Dr. Stephen Curtis who spoke on "Socialized Medicine." An open forum followed his talk. Mrs. Arthur Benson discussed bills pending before the legislature.

Dr. Harry L. Harvie, county chairman of the Control of Cancer, has asked the members of the Woman's Auxiliary to sponsor the cancer control drive in the county. Mrs. Harry P. Van Wagenen of Kingston, a member of the Women's Field Army of the American Society for the Control of Cancer, met with members of the auxiliary to discuss details of the work.

### Saratoga

The members of the Woman's Auxiliary to the Medical Society of the County of Saratoga and many guests enjoyed 2 interesting films, one a film of Mexico taken by Dr. Carl Comstock, who spent a few months in Mexico with Mrs. Comstock. Beautiful colored pictures of sunsets, flowers, country scenes, cities, and palaces were included in Dr. Comstock's films. Many enjoyed the sea fishing pictures and the movie of a Mexican bull-

fight. The second film, *Alaskan Adventures*, was taken by Dr. G. Scott Towne. Many interesting phases of life in Alaska were told. Dr. Towne emphasized the importance of radio service in Alaska. He thrilled his audience with a description of how his son captured a ferocious Kodiak bear.

Mrs. Mark Nettles presided at the meeting of the Woman's Auxiliary to the Medical Society of the County of Saratoga held on February 7, 1939. Public health nurses and nursing service in general were discussed. Miss Marion Laird, Agent of the Saratoga County Tuberculosis and Public Health Association, spoke on health nursing and generalized the nursing science. Miss Katherine Mezera, a county nurse, reviewed the activities in a nurse's day.

### Schenectady

The Woman's Auxiliary to the Medical Society of the County of Schenectady held a dinner dance and hobby show on Saturday evening, February 18, 1939, at the Mohawk Golf Club.

Mrs. Leslie Sullivan, president of the auxiliary, greeted the many guests who attended.

### INFECTED JAPANESE SHAVING BRUSHES

A warning to all residents of the State against Japanese shaving brushes infected with germs of anthrax, is sounded by Dr. Edward S. Godfrey, Jr., State Commissioner of Health.

These brushes are of a cheap variety, small in size, 4 1/2 inches over all, the handles 3/4 of an inch in diameter, painted in two colors. The

lettering, "Japan 332," is stamped on the top of each brush while on the sides appear the words "Imperial-Sterilized."

The brush is of stiff hair, grayish in color, or mixed black and white. Any such brush discovered should be sent to the State Health Department, Albany.

At the forthcoming Annual Meeting of the Medical Society of the State of New York, the newly formed Section on Gastroenterology and Proctology will hold its first session and for its first day has decided to conduct a type of meeting new to our Society, but which has proved of interest in other similar organizations.

The morning will be devoted to a Round Table discussion of subjects to be submitted in advance by any member of the State Society who expects to attend the meeting. A

round table group of speakers, consisting of two gastroenterologists, an internist, a surgeon, and a roentgenologist will discuss the previously submitted subjects in turn, supplemented by brief discussions from the floor.

It will be much appreciated by the officers if members of the Society will send in questions for discussion either to the Chairman, Dr. A. F. R. Andresen, 88 Sixth Avenue, Brooklyn, or to the Secretary, Dr. John L. Kantor, 145 West 86th Street, New York City.

# Medical News

## Broome County

The Broome County Medical Society is studying the possibility of setting up a nonprofit organization through which county residents in the lower income brackets would be assured of proper medical care by making regular monthly payments in advance.

The proposal is being studied by the society's economics committee headed by Dr Harry I Johnston, chairman. Findings of the committee with recommendations will be submitted to the executive committee and then placed before the membership.

Present regulations of the State Insurance Department are holding up phases of the establishment of such an organization but legislation to eliminate these difficulties is being considered in Albany, officials of the society explained.

## Dutchess County

At the regular meeting of the Dutchess County Medical Society on February 8, the speaker was Dr John E Deitrick, attending physician at the New York Hospital, who gave a paper on "Failure of the Peripheral Circulation." The meeting was held at Ryon Hall of the Hudson River State Hospital.

## Erle County

A deadlock developed in February in the plans to provide medical aid for relief clients in Erie County. The plan to pay \$240,000 for their medical care, sponsored by Welfare Commissioner, Thomas W H Jeacock, and approved by the Board of Supervisors, was rejected by State Welfare Commissioner David C Adie "because the same work could be done for \$60,000." The plan provided for paying physicians \$1 an office call and \$2 a home call, whereas the State Welfare authorities say the relief clients should go to the free clinics.

"To the State Welfare administration is attributed the assertion that the pro-

posed county plan is 'designed to improve the economic status of the private physician, rather than to provide adequate low-cost medical care for the relief clients. It would have been fairer,' observes the Buffalo *Courier Express* in a strong editorial, "to have stated the case the other way around—to have said that Buffalo physicians and Buffalo hospitals are giving so much free service that there is no need for state and county to spend large sums to duplicate this service on a paid basis. It must not be forgotten that the free clinics are kept going by private physicians who donate unpaid services thereto.

"According to the state's own figures, this free clinical service makes a difference of \$180,000—the discrepancy between the county estimate of \$240,000 and the state estimate of \$60,000. According to medical authorities, the value of free service given by Buffalo physicians runs into much larger figures. In a speech before the Buffalo branch of the American Association of Medical Social Workers, Dr Harry C Guess, former president of the Erie County Medical Society, said that 'the state doesn't take into account the fact that, at present, private physicians in Buffalo annually give more than \$1,000,000 worth of free medical treatment.'"

Dr Carlton E Wertz, President of the Medical Society of the County of Erie, said in a published statement:

The state's attitude reeks of politics. Why did the state sit calmly by while we were working out this program and say nothing, then suddenly announce that it would not reimburse?' he said, in commenting on the action of the State Welfare Commissioner requiring welfare clients to patronize free clinics paid for by the city of Buffalo.

"Not until a month ago did we receive any inkling that this was to be the state's attitude. It's a good example of

how the politicians would try to control any type of socialized medicine

"This is a purely local problem. Now the state steps in, without warning and after we had the plan nearly perfected, to make the arbitrary decision that it won't reimburse

"If the state is so dictatorial about this whole thing, why has it been reimbursing all this time on fees paid to the doctors these many, many months in the rest of Erie County? The state's policy just simply is not consistent

"The state seems to think we doctors want to make a lot of money. That isn't true. We have been treating relief clients in the city free of charge for years. And let me add this—we are far more interested in seeing that the client gets adequate medical care than we are in making a few extra dollars

"Under the present system of free treatment, all relief clients cannot possibly get adequate care. Most of the clients themselves are backward in asking for medical care, often when it is badly needed

"I still believe the thing can be worked out through our committee"

### Franklin County

Dr. Esmond R. Long of the Henry Phipps Institute, Philadelphia, addressed more than fifty members and guests of the Saranac Lake Medical Society in the John Black room at the Saranac Laboratory on February 1, on "Some Correlations of Pathology and Epidemiology of Pulmonary Tuberculosis"

### Jefferson County

Dr. Joseph S. Lawrence, Executive Officer of the Medical Society of the State of New York, addressed the Jefferson County Medical Society on February 2 at the Black River Valley Club, on medical conditions in the county. He recounted the striking improvement in the rates of illness and death, due to the advance in medical science, and gave many interesting facts and figures about the doctors, hospitals, etc., in the county

Dr. Richard L. Gray, of Clayton, who died there on January 28 at the age of sixty-nine, had practiced medicine in that vicinity for forty years.

### Kings County

A number of women's groups in Brooklyn are urging Governor Lehman to appoint Dr. Maryland Burns Byrne, lawyer and physician, to fill the vacancy in the Supreme Court, Second Judicial District, in Brooklyn, caused by the death of her husband, Justice Edward J. Byrne, on February 7, in Miami.

Mrs. Byrne, who lives at 25 Hill St., Glen Cove, Nassau, was formerly Health Officer of Glen Cove. She is a graduate of Adelphi College, Columbia University, Bellevue Hospital Medical College, and Brooklyn Law School, and was admitted to the bar in 1921.

### Livingston County

Dr. N. Stanley Lincoln, Superintendent of the Mt. Morris Tuberculosis Hospital, spoke to members of the Livingston County Medical Society on "The Statistical Aspects of Tuberculosis," at a meeting held at the Mt. Morris Hospital on January 31.

### Monroe County

With city and county wrestling with a general plan for retrenching on welfare costs, a new supermedical unit for regulating all handling of indigent sick would be set up at a cost of \$48,100 a year under a recommendation of Dr. Carl E. McCombs, New York expert on welfare. Dr. McCombs, in his report submitted by City Manager Harold W. Baker to Rochester City Council members, hospital authorities, and Monroe County officials, claims this sum could be saved on present overlapping and loose handling of indigent sick.

The biggest evil to be removed by the new unit would be small town medical practice with indigent sick.

"Apparently a number of physicians specialize in practice among relief recipients in the several towns," Dr. McCombs reported.

Against this, he said, some towns operate efficiently and are reimbursed by the state to the full limit of needs. Others, he said, ignore state reimbursement altogether.

Dr McCombs would have the county medical bureau a county organization to embrace the medical unit of the city welfare bureau as well as all the scattered units of the towns.

A full time medical director would be placed at the head with a staff of investigators and assistants with a payroll that should be possible to keep within \$50,000. He fixes the estimate for office administration of the unit at \$16,000 per year.

This is exclusive of \$33,100 to be paid a staff of field physicians as follows:

Eleven physicians, part time, for the city, \$17,600, one dentist, part time, \$1,500, one physician, full-time, Irondequoit, \$2,000, eight physicians, part-time outside of Irondequoit in the towns, \$12,000.

The office staff would consist of a director at \$5,000, general investigator, \$2,400, secretary-office manager, \$1,800, statistical clerk, \$1,500, assistant clerk, \$1,040, three stenographers, \$936, telephone operator, \$720.

A strenuous campaign for legislation to prevent 'over the counter' sale of sulfanilamide, a drug effective in the treatment of gonococcal and other infections when administered by a physician, will be pushed by the Tuberculosis and Health Association, the Monroe County Medical Society, and public health officials.

Calling attention to the dangers of self medication, Dr Robert Schanz, chairman of the social hygiene committee, says that a number of druggists have already established the practice of refusing to refill prescriptions unless ordered by a physician.

Dr Arthur M. Johnson, Rochester city health officer, declares, 'There has been too much self medication in the treatment of gonococcal infections and the person who tries unsupervised use of

sulfanilamide preparations risks anemia, which may be fatal.

'Better druggists have refused to sell these preparations without the direction of a physician.'

### Nassau County

The Nassau County Medical Society met for the first time in its new quarters in the Cathedral house, Garden City, on January 31.

Heretofore the society has met in the Nassau Bar association building at Mineola. Officers of the society pointed out that greater facilities for parking and attendance at meetings are provided in the new location.

Dr Jesse G. M. Bullock, physician at the Harlem and Willard Parker hospitals, consulting physician at the New York Infirmary for Women and Children and consultant in serum therapy at Long Beach hospital, spoke on "Serum Therapy and Chemotherapy in Pneumonia," during the scientific session.

### New York County

Now that sixty-three physicians and surgeons have been granted licenses as school medical inspectors (personnel) in the New York City school system, the Board of Superintendents is scheduled to proceed promptly with its projected reorganization of the school medical staff.

Superintendent of Schools Harold G. Campbell announces that he intends to bring the matter before the board in the very near future, so that details may be decided upon to put into effect its general plan for an expanded school medical program, designed to raise the general level of teacher and pupil health.

"The fact that we have a long eligible list gives us plenty of leeway in bringing about any reorganization that the members of the board may have in mind," Dr Campbell said. "I intend to present the question as soon as we dispose of the nomination of new assistant superintendents so that we can actually begin the reorganization we have been talking about for a long while."

The purpose of the reorganization,

according to its proponents, is to convert the school medical division from an office for examining sick teachers to a positive force for the improvement of pupil and teacher health

Dr John A Hartwell, New York surgeon and past president of the New York Academy of Medicine, who has been serving as director of the academy since 1934, has been appointed associate director of the American Society for the Control of Cancer, it is announced by Dr Clarence C Little, managing director of the society. Dr Hartwell recently announced his resignation as director of the academy as of April 1, on which date he will assume his new duties

Dr Walden Evermont Muns, assistant clinical professor of medicine at the New York Post-Graduate Hospital, 303 East Twentieth Street, and assistant medical director of the medical division of the Federal Reserve Bank of New York, died at Montgomery, Ala, on February 1. He was fifty-four years old

Dr John William Watson, sixty years old, a retired New York physician, died on February 7 in New Orleans while on his way to California with his wife

### Onondaga County

In a resolution adopted unanimously, the Onondaga County Medical Society, meeting on February 7 at the College of Medicine, Syracuse University, commended Dr George L Wright, fire department physician, for his long hours of work during the Collins Building fire disaster

The citation read "Resolved That the Onondaga County Medical Society commend Dr George Lamont Wright for the fine example of devotion to duty which he displayed by his untiring efforts during the recent fire tragedy in Syracuse"

The society also approved the principle of voluntary, nonprofit sickness indemnity insurance and appointed a committee to work out a practical plan of this

type for Onondaga County if and when the State Legislature approves such insurance. The committee consists of Dr Leo E Gibson, chairman, Dr Arthur N Curtiss, Dr Gerald C Cooney, Dr Carl E Muench, Dr Arthur B Raffi and Dr Ellery G Allen

A rising vote of recognition was given Dr Garrison L Brown of Euclid for his fifty years of membership in the society. He was president of the group forty years ago

Recommendations of a special committee appointed by the Onondaga County Medical Society to consider the problem of hospital visiting hours, with a view to curtailing and standardizing them are summarized as follows

1 That the Hospital Council be re-instituted for the purpose of co-ordinating matters of interest to its former constituent institutions

2 That until such time as, in the opinion of the hospital executives, public acceptance of standardization of visiting rules is assured, attending physicians are requested to prescribe visiting limitations for all patients under their care

3 That hospital visiting rules be standardized as follows

A Private patients, 2 to 3 30, 7 to 8 P M daily

B Public wards, 2 to 3 30, 7 to 8 P M, three days weekly

C Children's wards, 2 to 3 30 P M, parents only, three days weekly

D Maternity wards, 2 to 3 30, 7 to 8 P M, three days weekly

E Where three visiting days are suggested, it is important that the days selected be specifically agreed upon by the Hospital Council

F No visitors except immediate family upon major surgical or maternity cases for five days after operation or delivery

G Not more than two visitors, except immediate family, be permitted any patient at any one time

H Visiting period to be limited to twenty minutes for any visitor other than immediate family

I Except under unusual circumstances and with the consent of a hospital executive, no children under fourteen years of age to be admitted as visitors at any time.

4. That Group Hospital Plan, Inc., be advised it is the opinion of this society that improperly controlled visiting of the hospitalized sick is undoubtedly a factor in increasing the length of hospitalization

5 That when standardized visiting rules have been agreed upon by the Hospital Council, the society be requested to supply suitable notification to all member physicians

During a meeting of the special hospital committee, it is said, one physician cited an instance when one ward in one of the Syracuse hospitals had 47 visitors milling around in the room at one time.

Dr Hugo Roesler, internationally known heart specialist, gave an illustrated address at a dinner meeting under the auspices of the heart committee of the Onondaga Health Association at Hotel Syracuse on February 7 on "Some Aspects of Humor and Art in the History of Medicine."

Dr Roesler was in Syracuse as guest of the medical education committee of the Onondaga County Medical Society, under whose sponsorship he has been conducting clinics and lectures for small groups of local physicians on the x ray interpretation of heart and lung conditions.

#### Ontario County

Dr Leon A Stetson was host to the Canandaigua Medical Society, on February 9, at his home on North Main Street. Dr Frederick C McClellan was reader

#### Queens County

The Queensboro Tuberculosis and Health Association, in conjunction with the Queens Medical Society, is planning a new series of one-dollar x-ray clinics, it is announced by Martha Rains, Association supervisor

#### Richmond County

"Management of the Diabetic Patient" was discussed by Dr Enrico C Soldini, attending physician at St Vincent's Hospital, West Brighton, at a meeting of the Richmond County Medical Society in the Richmond Health Center, Stuyvesant Place, St. George, on February 8

Another speaker was Dr Nathan Rosenthal, attending physician at Mount Sinai Hospital, Manhattan, whose topic was "Diseases of the Blood"

Dr Frederick M Schwerd presided Refreshments were served

#### Saratoga County

A joint meeting of the Saratoga County Medical Society and the Saratoga Hospital staff was conducted at the hospital on January 25 with lectures and practical demonstrations on subjects of interest. A lecture, with practical demonstrations, on diabetes mellitus, was in charge of Drs Donald W Ingham and Edward J Callahan Drs Carl R Comstock, Robert S Hayden, and H Dunham Hunt gave a lecture on heart disease, with demonstrations of the use of the electrocardiograph. Drs Earl H King and Joseph Lebowich assisted in these lectures, and Dr G Scott Towne was in charge of the motion pictures used in connection with them

Miss Clara F Sinclair, superintendent of the hospital, spoke on "What the Hospital Has to Offer to Diabetics," and Miss Ruth Johnson, dietitian, demonstrated the use of diabetic diets

A buffet luncheon was served by the staff in the nurses' lounge. The program was in charge of Dr Thomas J Goodfellow, chairman of the program committee of the staff, and Dr Edward J Callahan, chairman of the program committee of the society

#### Suffolk County

At a meeting of the Suffolk County Medical Society held recently at Friede's Riverside Inn in Smithtown, Dr William H. Ross of Brentwood, gave an address on "Socialized Medicine."

"The problems of medical care are not only agitating the medical profession, but the larty of the whole country," Dr Ross said "Up to now, organized medicine has been backward in efforts to improve its availability. The time is at hand for the profession to assume the leadership of these reforms. If it doesn't, it will follow the lead of those who know less than they. The socialization of medicine is likely to be an increasingly discussed issue until a solution is found. There is a wide divergence of opinion as to what is the best solution. Organized medicine and many thoughtful laymen do not believe that compulsory health insurance is the answer. Voluntary hospitalization insurance has been successfully working for several years.

"We, as a profession, should use our leadership to increase and improve the availability of medical service for the entire population and accept the fact that it requires two sources of finance, taxation for the indigent and voluntary insurance for others."

Complaints have been made by the medical boards of the Southampton Hospital and the Eastern Long Island Hospital that Welfare Commissioner Irving Williams has been removing children to the Suffolk County Home Infirmary at Yaphank for tonsil operations, instead of having them treated at the local hospitals. The Commissioner defended his action at a meeting of the county board of supervisors on January 30 on the ground of expense, but the Suffolk County Medical Society has issued a statement declaring that "the policy adopted by the Welfare Commissioner and affirmed in his proposals, of removing welfare medical and surgical cases to the County Home Infirmary at Yaphank is not in the best interests of the patients and not in accordance with the most efficient medical care of these patients," and offering "to make such arrangements with the Commissioner of Public Welfare, regarding the care of chronic cases, as may be legal, and for the best medical interests of these welfare cases."

## Westchester County

Public welfare officials have "exploited" medical clinics and dispensaries in providing care for the indigent sick during the depression, Dr Ralph T. B. Todd of Tarrytown, told members of the Westchester County Hospital Association at a luncheon meeting at the Hotel Commodore in New York.

Dr Todd, who is the newly elected president of the Westchester County Medical Society, declared the practice of sending "border line" cases to clinics rather than to private physicians had resulted in apparent "savings" in welfare budgets for medical care at the expense of the private practitioners. He pointed out that a survey had shown that, based on a moderate standard of fees, 411 doctors in Westchester County had contributed \$1,800,000 worth of service to such cases in one year.

To remedy this situation, he said, the County Medical Society proposes that ambulatory cases be sent to private physicians and that a standard schedule of moderate fees be established. Doctors will continue to contribute their services to clinics and dispensaries, he stated, explaining that they desire to maintain their original purposes, providing facilities for diagnosis and as a training ground for young physicians.

New Rochelle will not join the County Health Department, it was decided on February 6 at a meeting of the City Council. Instead, plans for reorganizing the city department, long the center of stormy controversy, will be submitted to the medical society and then discussed at a public hearing.

This action was taken after a report from Dr. Cleland A. Sargent, district state health officer, had been revealed for the first time, although it long has been in the possession of city officials.

In a sweeping statement, Dr Sargent held the facilities quite inadequate for health protection and recommended 1. The addition of nine public health nurses to the present staff of three. 2.

Employment of additional clerical help 3 Addition "of a competent, well-trained public health officer to the staff" 4 The cleaning and repairing of clinic equipment. 5 The renting of "adequate quarters" to replace the present bureau in an old school building

Dr Theodore A. Jost, of Mt. Vernon, has been appointed the city's first full time Public Health Commissioner

Dr John A. Knapp, of Mt. Vernon,

who died on February 2 at the age of eighty-four, began the practice of medicine in 1888. While he belonged to the "horse and buggy" days, he was one of the first to shift from oats to gasoline, buying a car in 1903. Motor troubles of those days, it is said, often made him doubt the wisdom of the change.

In his long practice of nearly half a century, he delivered more than 1,000 babies, and lost only one mother

### WITTY M.D.'S

Some amusing stories of famous doctors are told by Dr W. Schweishelmer in *The Medical Record*. Undoubtedly one of the wittiest doctors of all times was the Baltimore-born dermatologist, Philippe Ricord (1799-1889). Dr Ricord was for many years the head of L'hôpital du Midi for syphilitics in Paris and his particular specialty made a certain readiness of wit and tact quite necessary at times.

At a party he was introduced to a young woman who had been a former patient of his. Immediately recognizing him as her former physician she hesitated and blushed. Her husband was surprised at her strange behavior but Ricord saved the situation by saying:

"Madame, I see that the reputation of my particular profession has reached your ears. But I can give you my word of honor that your suspicion is unfounded. So far, I had neither opportunity nor cause to treat your husband."

Ricord had also a masterly ability for settling a conflict between professional secrecy and ethical obligations. One of his patients wished to marry the daughter of one of Ricord's best friends in spite of the doctor's opposition. Ricord made an appointment with the young man and at the same time, with his friend, the girl's father. They met in the doctor's waiting room. But Ricord had forgotten all about the appointment and kept them waiting. In the mean while, the two had sufficient time to discuss matters. The marriage never took place.

Moreau, once surgeon at the L'hôpital de Paris, was once called by King Louis XV because of a wound on his foot. I hope," said the king

that you will treat me better than your patients at the hospital.

Sire replied Moreau: "I regret to tell your Majesty that it is impossible to treat your Majesty in any way differently."

And why not?

Because all my patients in the hospital are treated like kings!

Etienne Pariset, secretary of the Parisian Académie de Médecine, accompanied his teacher Portal, to a wealthy stomach-disease patient one day. Portal was a famous physician, and furthermore physician in ordinary of Louis XIV and other French kings. The patient was prescribed a very severe diet approaching a real hunger-diet.

Portal felt the patient's pulse and said with raised eyebrows: "Monsieur, you have eaten a soft boiled egg in spite of my orders."

"What? You can tell from feeling my pulse?" asked the astonished patient.

"Naturally. The egg contains sulphur, phosphorus and proteins which excite the stomach walls. A strong drink of Roman camomiles and pulverized crayfishes will make good for the slip. The patient, anew convinced of Portal's wisdom, promised to follow the doctor's orders strictly from now on.

Outside Pariset took the master's hand. "Great man, I humble myself before you. You were able to recognize that the patient had eaten a soft boiled egg merely feeling his pulse!"

Moreau replied Portal: "he had the yolk on his shirt."

Periodic examination of the adults in a family is a simple means to wipe out a large and important sector of childhood disease, remarks

the *New York Medical Week*. Physicians should not hesitate to emphasize the importance of this to the parents of children under their care.



# Hospital News

## The New Nursing Law in This State

**N**O LITTLE confusion and misunderstanding attend the efforts of nurses and others to understand the new state nursing law, which goes into effect next year. It means enrolling some 80,000 persons, according to authorities at Albany, half of whom already have licenses under the old law as professional nurses. The new act provides two distinct groups of nurses—professional and practical—each of them to be recognized by the state, with hospitals and physicians setting the duties of members of each group. The main problem, said Dr. Harlan H. Horner, of the State Health Department in an address before the State Nurses Association, will be to organize the groups. He said plans are under way to set up satisfactory standards for instruction in schools, where one may choose whether to become either a professional or a practical nurse. Between 15 and 20 such schools may be operating within a year, he said. Many hospitals, he predicted, will employ practical nurses to work under direction of registered professional nurses in order to reduce special nursing costs to patients.

### Clarifying the Confusion

The confusion is due in part to the length of the new law, which covers 24 pages in small type, remarks John Hayes, administrator of Lenox Hill Hospital, in a clarifying article in *The Modern Hospital*. Some seem to fear that it will elevate the practical nurse into direct competition with the registered nurse, while others take the opposite view—that it “will put the practical nurse out of business altogether.” Neither apprehension is grounded in fact.

Briefly, explains this authority, “after July 1, 1940, every hospital in New York State will be restricted to the employment of nurses licensed by the State,” and “no person will be allowed to nurse for hire unless he or she has one of the two

licenses stipulated by the law,” one for the registered nurse, as now, and the other for the practical nurse. “The most sweeping change from the hospital’s point of view,” says Mr. Hayes, “lies in the enforced discontinuance of employment of any or all nurses without a New York State license. The acceptability of their nursing service and training or the holding of a registered license obtained outside this state does not alter the case. To conform with the law, the nurse in New York State must qualify for employment with a license for her type of nursing, registered or practical.”

### Groundless Fears

No fear need be felt by the more than five hundred nurses, graduates of courses in state institutions now discontinued, for they may exchange their present licenses for the new ones, without examination, before July 1, 1940, and until that date, too, the state will continue the examinations for trained nurses under the old act, so that those who have completed their courses may win their trained-nurse licenses.

Then there are the nurses who were graduated outside New York State. Under the old law they were debarred from examination here unless their nursing schools had been visited and accredited by the New York State Board of Nurse Examiners. Now, however, we are told, to such a nurse the new law offers an open door. For example, she not only becomes eligible for examination, but under the qualifications just cited she may be relieved from the obligation to take it. She may obtain a New York license without examination, assuming that she meets the other requirements of age, residence, four years of high school or its equivalent, character, and citizenship.

To other graduate nurses from out of the state who do not meet the residence

requirement, and whose schools of nursing have not been accredited by another state, and who lack a license from another state, the new law is again more lenient than the old act of 1920. The applicant becomes eligible for the examination heretofore closed to her. She has only to pass it to obtain a registered license.

### Penalties

The penalty for any person holding a practical license who attempts to claim or to assume any other title, includes the revoking of her license, thus prohibiting employment. Equally severe measures are stipulated for the holder of the registered nurse license. If, through unprofessional conduct or habits, neglect of duty, the use of liquor or drugs, or mental illness, such a nurse is declared unfit, her license may be revoked, again prohibiting the practice of nursing for hire.

It is only fair to add that physicians who sign affidavits for nurses as to character and ability may be called to appear before the state's investigating committee set up by the new law, if serious charges are made against the applicant as to violations or neglect of duty. In several cases, the new law requires a nurse to present affidavits from two members of a county medical society

### The Practical License

Now as to the practical license. If a practical nurse has been lawfully and reputably engaged in nursing for one

year prior to July 1, 1938, and has 2 affidavits from physicians who vouch for her, she is eligible for a practical nursing examination by the state for a practical license. For her there are the requirements of citizenship, age, and character, such as there are for the registered nurse.

If the practical nurse has been engaged in practice for five years within the last ten years, no examination is required. She gets her license if two physicians certify to her practice. If a certificate for a trained attendant is held, she may exchange it for a practical license. A nine-months course for a practical nurse will be required of all those who apply for a practical license after July 1, 1940. These nine months' courses were announced last fall.

### Licensing Orderlies

An interesting byproduct of the practical license is that it will be required of hospital orderlies performing nursing duties. At the last state hospital association meeting this was discussed and agreed upon. The feeling is that this will do much to elevate the standards for all orderlies who perform certain simple nursing duties for male patients. In not a few hospitals deplorably low standards in the selection of orderlies exist. Some orderlies who perform nursing duties would undoubtedly make acceptable male nurses, given an opportunity for adequate training; others, unfortunately, are more fitted for the street from which they drifted in.

---

The financial condition of St. Francis Hospital in Port Jervis, established 24 years, has become so serious that it may have to close its doors. Unless there is a guarantee by the municipality to take responsibility for a reasonable number of welfare cases, Catholic Charities will withdraw its support. Hospital authorities are faced with the task of raising

\$4,000 to meet a deficit for last year and \$2,000 additional due for laundry repair work and annual interest. The chief source of difficulty in the past two years, according to Sister Francis Xavier of the Third Order of St. Francis, has been failure on the part of the Port Jervis Welfare Department to approve bills of patients admitted as public charges.

## The Gray Ladies

**G**RAY LADIES" units have been set up by the American Red Cross as a part of its volunteer hospital and recreational service, says a note in *Hospitals*. These young ladies, in preparing themselves for membership in these units, together with many other requirements, have to complete a fifteen-hour course conducted by the professional staff of a recognized hospital.

The "Gray Ladies" have a uniform of gray dresses and chiffon veils which identifies them from uniformed employees of other services in the hospital.

The "Gray Ladies" pledge themselves to give a minimum of fifty-two hours of service a year. The services include reading to patients, shopping for them, and rendering any other nonprofessional aid. Among the other duties are handling

of correspondence for patients, providing lectures, musicales, and theatricals, arranging motor drives for convalescents, and other duties helpful to both the patient and the hospital officials.

The "Gray Ladies" were first established in the Walter Reed Hospital, Washington, D C. Units are now being trained in various hospitals throughout the country. On January 11, the Menorah Hospital, Kansas City, Missouri, graduated its first class of twenty-two young ladies, the first "Gray Ladies" unit established in the Middle West. The Unit is designated as the Lottie E Hurd Unit, in tribute to the memory of the late Mrs Hurd, who was the first chairman of the hospital recreational service of the Red Cross in Menorah Hospital.

## Newsy Notes

**E**FFORTS of the Mayor of North Tonawanda to interfere in the affairs of the De Graff Memorial Hospital there, have caused the Twin Cities Academy of Medicine and the De Graff Memorial Hospital Staff to adopt resolutions branding his interference as "dictatorial, undemocratic, and without balance of power." He is accused of trying to act as "a one-man hospital board," usurping the authority of the hospital superintendent, deciding alone on the purchase of medicines and equipment, disciplining physicians, and "delving into the personal affairs of our private patients." Public sentiment is with the doctors, according to the local paper, which says:

"Stand by your guns, Doctors, and you will stand by the people of the Tonawandas, who will stand by you in your battle for service that only De Graff Hospital can provide in continuing to operate, but not if a 'one man' institution "

. . .

The crippled and chronically sick patients in Montefiore Hospital, 100 East Gun Hill Road, New York City, be-

lieve in developing their minds while the medical staff develops their bodies.

As a result, Montefiore now boasts of one of the largest hospital schools in the city, with scores of patients taking a variety of courses under the aegis of the W P A adult education division of the Board of Education.

Courses in art, current events, photography, drama, and diction and music appreciation are given daily in a library that has been remodelled into a class room. Patients, ranging in age from 18 to 70 years, wheel their chairs into the room while others are carried in on stretchers and placed in a semihorizontal position.

"We are amazed at the tremendous demand for these classes," said Celia M Pearson, head of the occupational therapy department.

A literary magazine is published every three months by the students of the story-writing class and distributed to all the patients of the hospital. The drama class is at present rehearsing a play which it intends to broadcast over a local station. The play was written by a patient who is a scenario writer by profession.

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

APRIL 1 1939

NUMBER 7

---

## *Editorial*

---

### The Wagner Health Bill

At last the national health bill, prepared by Senator Wagner, has seen the daylight. Congress has it

Instructed by the Interdepartmental Committee through its conferences and the various addresses of its chairman, as well as through sundry press releases, as to what the national health program entails, we thought that the propositions the program embraces would be reflected in the bill which Senator Wagner was so long in preparing

The bill is the epitome of vagueness. It leaves the control of medical practice to the supervision of lay political bureau chiefs. It indicates that they *may* have advisory medical boards, but it does not provide that these lay chiefs must take the advice of such boards, nor does it show how such boards are to be brought into being, or what type and kind of man shall serve on them.

Departments of the Federal government have a voice in the distribution of funds, which are held out to states to lure them into experimentation on ways and means of delivering medical care to the low income earning groups and to the indigents. The Children's Bureau, the Department of Labor, the Public Health Service, the Social Security Board, and their departmental chiefs, are each and all interested in this particular part of the propositions, and, in the main, the act would function under them.

The bill evidences a total lack of any provision for establishing adequate medical standards, and it seems to make the state health officer almost the sole arbiter of the manner of delivering medical care to the underprivileged in his state. There is some vaguely outlined provision calling for the development and education of

medical career officials If this means the experimental setup of an educational system to train men who will later be the means of delivering *state medicine* to the people, then this should be frankly comprehended and our people must decide whether or not they eventually want pure state medicine This in itself is an insidious wedge which leads to straight state medicine

If the American people do not want straight state medicine, there seems little use in educating and developing a group of men to deliver it

On the whole, the bill seems to have been introduced so as to be amended It most certainly needs amendment upon amendment Would it not be better to withdraw the bill, rewrite it with the aid of the medical profession, who must eventually administer it, and really make an attempt to accomplish some of the things that are enunciated in the parallelism of thought and of ideas of both the organized profession and the governmental agencies who took part in the various Interdepartmental Committee conferences? What end have these so-called conferences had, if the Wagner bill is the outcome?

Most thoughtful people will concede that there is actual need of medical policy being determined by doctors There is need for the adoption of adequate standards of care for the various groups in our national body politic There is a strong desire everywhere to lower the expenditures of the Federal government in bringing health measures, and health agencies together in useful coordinated work, *where they are needed*—and who is to determine the medical needs of a community if not its doctors! There certainly seems also to be a need to correlate local community needs, and the distributional agencies for medical care in those same communities This correlation should not be placed in the hands of a purely political group whose “weather eye” never loses sight of the effect of its decisions on the electorate, and its vote

Whatever our individual opinions may be anent the five major proposals of the national health conference—and there is much in them that even we deem unnecessary and uncalled for, much that would entail an unjustifiable tax burden on an already overtaxed public—this particular Wagner Health bill fails even to meet these propositions It is wholly impractical, it is almost unworkable, it is certainly extremely vague, and absolutely unsuitable from our standpoint If enacted into law, it will bring the medical profession into such difficulties that it will take decades to extricate itself from them Particularly will it be difficult to evade the bureaucratic *interpretations* which must be made, perforce, because the bill is full of uncertain terms, and contains too many unprecedented tentative permissive clauses

With all due respect to the senior Senator from New York, we would characterize the Wagner Health bill as extremely *amateurish* did we not suspect that this veteran political strategist has purposely drawn it so vaguely that its passage through Congress would encounter the least amount of oppositional friction in its passage toward enactment. The program seems to be meet opposition with vagueness, let decisions be made later *Après moi, le déluge!*

The public concern for the health of the people is entitled to more than a good piece of political strategy in a health bill. The profession which will have to work under the bill, the governmental agencies which plan the measures and procedures under its permissive clauses, and the taxpaying public which will foot the bills to pay for it—all deserve a *precisely drawn bill*, so that all will know beforehand just what is being proposed, what it will deliver, who sits at the controls, and what it is going to cost.

It seems to us that it should be realized that now is not the time to write another blank check on the Treasury to be filled in, at will by lay experimenters in health measures for the general public.

### Osteopathy's Limits

The Milmoie bill, authorizing osteopaths to perform minor surgery and employ anesthetics, antiseptics, narcotics, and vaccines, disregards the inherent limitations of osteopathic theory and training. Osteopathy insists on the body's power to heal itself. Since it attributes disease to dislocation of the bony structures, its therapeutic principles depend on manipulation of the joints. Other treatment methods are inconsistent with osteopathic theory—so much so that *materia medica* is omitted from even the best of osteopathic courses.

To permit osteopaths to perform surgical procedures of any kind would break down an important distinction between osteopaths and physicians—a distinction which is inherent in osteopathic theory and in the limited educational preparation osteopathic students receive.

Include surgery and the administration of drugs in osteopathy and for all practical purposes you have the practice of medicine. If osteopaths desire to practice medicine, they should complete the premedical course required of medical students, take the full medical course in a medical college, and intern in an accredited institution, as physicians do.

The desire of osteopaths to employ drugs and perform surgery is an admission of the deficiencies of osteopathy proper. Even the

best educated osteopaths are trained in accordance with this limited, sectarian theory. They are not qualified to embark on the broader duties of medical practice.

Let no one imagine that if osteopaths received the unwarranted privileges accorded them by the Milmoë bill, they would be satisfied to rest there. In a very short time they would be back for more—for the right to prescribe all drugs, practice obstetrics, and perform all types of surgery. In short, they would be full-fledged medical practitioners—in all but qualifications.

The Milmoë bill opens medical practice to a sectarian school which is antipathetic to essential principles of modern medicine and is not trained to put these principles into effect. The legislature should discourage similar attempts to undermine the standards of medical practice by administering a decisive rebuff to this bill.

### Equal Standards for All

The influx of foreign physicians into this country, and particularly into this state, lends special importance to recent decisions of the Appellate Division of the Supreme Court. In one case, Dr. G. E. De Luca, an Italian physician, had requested the Regents to indorse his Italian license. Thus the Regents refused to do without examination on the grounds that there is considerable uncertainty as to the standards of many European colleges today. Dr. De Luca appealed from their decision. Another ruling concerned two physicians who demanded indorsement of their German licenses after failing in the New York State Board Examination. In both cases the Court held that the Regents are within their rights in requiring foreign applicants to take the regular State Board Examination in order to obtain a license to practice here.

The decay of educational standards in certain European countries today is undeniable. New York State requires its own citizens to undergo an exacting training to practice medicine. It cannot be expected to license foreign graduates without first making sure of their qualifications.

As the opinion written by Justice Heffernan sets forth, "The State has the right to demand that those who seek to practice medicine and surgery shall pass a satisfactory examination as evidence of skill and competency. Such a requirement is neither unreasonable or discriminatory."

The medical profession, like the lay public, has the utmost sympathy for European physicians who are compelled by religious,

racial, or political persecution to abandon practices laboriously built up and seek out strange lands to start anew. Nevertheless, it cannot sanction destruction of the standards medicine has painstakingly developed in this country or the subjection of native physicians to unfair competition.

The decisions of the Appellate Division in the cases cited above set a sound precedent. They permit qualified practitioners from other countries to establish themselves here without compromising American educational standards.

### Another Court Decision of Importance

The organized profession has always held as one of its fundamental tenets, that only doctors could practice medicine. The privilege of practicing medicine—for it is a privilege and not an inherent right—was granted to individuals after they had demonstrated to the state, through its regularly constituted authority for ascertaining it, that they who held themselves out as having the ability to practice medicine were duly educated and technically qualified to exercise this privilege.

It was the profession's point of view that those having the ability to diagnose and treat the sick thereby incur an individual responsibility. In the interest of public welfare, this policy has been continuously upheld.

A corporation is a collection of individuals banded together to accomplish specific purposes. Legalistically, a corporation can have no mind, nor can it exercise the priceless privileges granted by the state to qualified individuals. By no process of reasoning can a corporation qualify itself to practice medicine. There are in the record long lists of judicial opinions and decisions which state that corporatism cannot apply in law acts which require the functions of the mind and reasoning, and which imply the use of individualistic intelligence. Hence, corporations may not engage in the practice of law nor can they practice medicine. Nor for that matter, can such corporations evade the basic principle of the law by hiring licensed physicians to do the essential intellectual acts comprising medical practice. The long list of recorded decisions now finds another one written into the record.

Late in February, the newspapers carried reports from Washington that the Supreme Court of the United States had declined to review a decision of the California Supreme Court which held that the Pacific Health Corporation, operating in San Francisco, had vio-



lated the state's Medical Practice Act, by hiring licensed physicians to give care to its members. The action of the highest legal tribunal of the country thus virtually announced that there is no need to review such an issue. The California Supreme Court settled it.

This is of special interest to the medical profession of our state, now when lay organizations are attempting to nullify the law and are also attempting to practice medicine as corporations. In the study of various schemes for providing medical care to the low income earning groups on a voluntary basis, let us beware that *we* do not abrogate or negate this law which safeguards our privileges. It is a high privilege with which the State entrusts us. Let us preserve it.

### Pneumococcus Antigen as Prophylactic

The intensity of the present campaign against pneumonia has proved the efficacy of the modern therapeutic measures. Further important studies are now appearing which indicate the value of sulfapyridine as a potent chemotherapeutic agent in all forms and types of pneumonia. Little, however, has been done from a clinical standpoint along the line of conferring immunity against this disease and it is of interest, therefore, to call attention to the investigation of Ekwurzel, Simmons, Dublin, and Felton<sup>1</sup> concerning the prophylactic value of Felton's pneumococcus antigen for Types I and II. The antigen is a sugar derivative obtained by the chemical purification of the pneumococcus itself.

In the tests conducted in two groups of CCC camps, the incidence rate of pneumonia in the New England group was 7.28 cases per thousand years of life in the uninoculated, whereas in the inoculated the incidence was reduced to 4.34 cases per thousand years of life. On the West Coast, the incidence rate of 15.69 cases in the controls was reduced to 1.73 cases per thousand years of life in the inoculated group. The effectiveness of this pneumococcus antigen was most marked in adolescents and younger men.

This experiment, of course, is far from conclusive but it is extremely promising. The investigation is being continued among adequate samples of our population. Information concerning the length of time for which the antigen may influence morbidity rates from pneumonia will be obtained only after some time has elapsed. The continuance of this work is important and deserves the encouragement and support of the profession and the health groups interested in the problem of pneumonia.

---

1. Ekwurzel, G. M., Simmons, J. S., Dublin, L. I. and Felton, L. D. Pub. Health Rep. 53: 1877 (Oct. 21), 1938.

# NONDOGMATIC PSYCHOTHERAPY

ALFRED GALLINEK, M D , New York City

**T**HE leading method of psychotherapy in this country may seem to be orthodox psychoanalysis. However, a thorough study of the situation reveals the fact that more and more frequently the dogmatism, one sidedness, and claim to exclusiveness of the orthodox psychoanalytic sect are severely criticized and objected to.

The situation becomes even more confusing when we look at European countries, and it seems more than justified to talk of a crisis of psychotherapy. In contrast to America, where at the present time orthodox psychoanalysis is identified with psychotherapy, several different schools and systems have originated in Europe. In Russia a new psychotherapy has developed on the basis of Pavlov's theory of conditioned reflexes while in the rest of Europe numerous new systems can be found in addition to the orthodox Freudian movement. Since we are limited in space we can mention only the most important ones here: Stekel's active psychoanalysis, Adler's individual psychology, Jung's movement, particularly concerned with the collective unconscious and the archetypes, Prinzhorn's psychotherapy, based on the ideas of the famous Swiss philosopher, Klages, I. H. Schultz's autogenous training, resembling the Indian Yoga, and finally Kronfeld's psychagogy.

We shall attempt to show how a non-orthodox psychotherapy may be developed out of a theoretic and practical knowledge of all these various schools.

How unfortunate may be the results of the rigidity of an orthodox theory is very strikingly illustrated by the psychoanalytic school. It is Freud's tragic fate that instead of remaining an abstract scientist he became the head of a school—more correctly, of a sect. When the leading representatives of German medicine rejected Freud's teachings for purely

emotional and unfounded reasons, this great scientist was forced to have himself proclaimed the founder of a new sect. As a result, we find that the work of a genius, instead of being integrated organically into the structure of medical knowledge, is rigidly imitated with an exaggerated emphasis on its one sidedness and details.

Without any criticism whatsoever, a school of faithful followers accepts a psychologic theory and a therapeutic method as a new philosophy and a profession and organizes groups which are closed like sects. These sects are not only outwardly closed, but, worse than that, their members shut their minds to other therapeutic teachings and methods.

Together with psychoanalysis, all other modern methods may be designated as 'uncovering psychotherapy'. The fundamental principle is never symptomatic and calming, but etiologic, aiming to cure the disease by an understanding of its origins. In the general sense of the expression they are all "analytic." With the exception of orthodox psychoanalysis most other schools are not satisfied with merely finding the origin, but it is the essential element of the therapy in all.

In contrast to these analyzing modern methods we have the older methods tending to cover up, suggestion, persuasion, and hypnosis. We shall soon see that within the scope of a universal psychotherapy these methods have by no means lost their importance.

The psychotherapist must decide what attitude to assume with regard to the numerous schools and movements and their deviating theoretic bases and practical methods. An unprejudiced examination reveals good and bad points, something true and something false in all theories. No one theory or method will be one hundred per cent acceptable or entirely rejectable. By this statement alone

a distinct differentiation from orthodox psychoanalysis is expressed, since the latter claims exclusiveness.

Even though the analytic and causal attitude is predominant, it must not be overlooked that the suggestive methods still maintain a certain significance. In certain cases it may be predicted immediately that the application of one of the analytic methods would be an unnecessary waste of time, money, and energy, as, for instance, in primitive individuals suffering from superficial hysterical conversions. However, in cases of nuclear neuroses, disturbances affecting the deeper strata of the personality, this would not be true. Let us illustrate with an example.

A patient was brought to the hospital on a stretcher. The young man, a primitive personality, had been struck by lightning while working in the field. From that time on (about six months), he was completely paralyzed in both legs. The neurologic examination was negative, an organic paralysis was out of the question. It could not be determined whether he had suffered an organic injury, the symptomatology of which had been psychogenetically fixed, or whether it was merely a question of fright reaction. This patient, who had come to the hospital on a stretcher, left it two hours later walking normally.

He had been faradized with energetic verbal suggestion—thus, one of the oldest methods had been applied. Orthodox psychoanalysis admits that such recoveries occur but claims that only the symptom disappears and that some other symptom, for example, vomiting, should be expected to replace the paralysis of the leg. The patient, however, remained perfectly well. In another case the method might have failed entirely.

In the case of a woman with hysterical paralysis of the leg, who in this manner unconsciously wanted to deprive herself of the equally unconsciously desired possibility of going out and being unfaithful to her husband, the same method would not have been successful. The paralysis of the legs of this patient prob-

ably would have disappeared too, but some time later she would suffer from a neurosis of the stomach, agoraphobia, or something else. Thus person cannot be helped but by an analytic uncovering of the unconscious conflict. From the obscurity of repression this conflict is brought out into the light of consciousness, the escape into the state of illness is cut off. The patient herself must decide on a solution of her problem with a perfectly clear mind. Either the moral standard can be maintained and the desire is renounced, or the desire is satisfied and the moral position is lost.

On the other hand, the young peasant would not have been helped in any way by an analytic approach. Cases like his must be approached with a roughly suggestive method, tending to "cover up." Thus the suggestive methods are justified in certain special cases, but the number of these is small compared with the number of cases calling for an analytic treatment. More important, however, than the occasional use of the suggestive method in individual cases is its successful application in connection with secondary problems arising in the course of an analytic therapy—contradictory as this may sound.

How should we now make our choice among the analytic schools? Shall we follow the orthodox psychoanalysis of the Freudians, the active analysis of Stekel, individual psychoanalysis, psychagogy, or shall the chief interest center about the symbolism of archetypes in the collective unconscious of Jung? Instead of deciding in favor of any of these methods, each case must be treated individually and the most suitable treatment selected. One patient may suffer particularly from a repressed desire to assert himself, in his case—to talk in terms of St. Augustine—the *superbia* is more important than the *concupiscentia*, and the treatment will have to be conducted along the lines of individual psychology. In another case the sexual problem may be foremost, and Freudian methods must be used, whereby it is essential for the physician to think inde-

pendently, without following too closely the norm of the sect. This is necessary for merely practical reasons: the duration of an orthodox treatment, daily conferences over a period of several years, and the expense of the treatment would render the blessings of psychotherapy available to only a limited circle of patients, and the misera contribuens plebs would remain locked out in front of the doors of the sanctuary. This requirement for a long duration of an orthodox analysis was based on the fact that it meant going back step by step over the entire development of the patient from childhood on. By the method of free association the length of time required by this analysis is further increased. The patient, reclining on the couch, may talk at random, merely for reasons of resistance, and may communicate any idea occurring to him which leads nowhere at all. The orthodox analyst listens passively for hours to this waste of time. On the basis of permanent cures which have been attained, the conclusion may be drawn that independently from any theory, results may be achieved much more rapidly.

However, in order to reach this goal, it is an important prerequisite to be thoroughly acquainted with Freud's theory and to be able to think in terms of its conceptions. The essential Freudian mechanisms, condensation, repression, displacement, the principal complexes, and the dream symbolism are practically always present.

It is true that the "road back" must usually be retraced, but that alone does not guarantee the patient's cure, and if a cure is achieved it need not be a permanent one. By an abbreviated method the "road back" is covered more rapidly. Before psychoanalysis had advanced to its present stage, Freud naturally had to study each step carefully. How else could he have made his discoveries? But just as we need not repeat Harvey's experiments in order to diagnose and treat a case of circulatory disturbance, we need not acquire psychoanalytic knowledge step by step in each case, but apply what is already well known.

The treatment begins with an intensified anamnesis following an average psychiatric anamnesis. We shall ask questions which gradually assume one particular tendency, the entire development of the patient, particularly his sexual development, must be described from the beginning on. This intensified anamnesis may sometimes be concluded in three to four hours. In other cases twenty hours or more are required. This intensified anamnesis gradually changes into an active analysis, into a study of the unconscious pathogenic mechanisms. Stimulated by the questions of the physician, the patient tells his story, and in the course of his tale he begins to remember things. He may stop in the midst of his story, look dream forlorn and say:

I just remember something I had not thought of for years."

With alert, intelligent persons, these events remembered suddenly in the course of an intensified anamnesis and under the influence of the physician's questions will illuminate a large part of the unconscious mechanisms without the aid of a true analytic technic. In a large number of cases an essential part of the treatment consists in this dialogue during an intensified anamnesis, interrupted only by spontaneous associations of the patient.

In other cases the flow of narration ceases rather quickly. In order to learn something about the essential complexes of such patients, especially of those where no active direction of thought can be seen, the Bleuler-Jung association experiments will indicate the topics. This experiment cannot be described here, but one may read about it in any good textbook of psychology and psychotherapy.

The association experiment, however, only indicates the topics, it never leads into the real depth, and stops where the shaft begins that leads into the depth of the unconscious.

On the basis of these topics indicated, the patient will then be asked: "What do you remember in this connection?" It must always be emphasized that the answer must not be the result of conscious

reasoning Completely relaxed, he must tell spontaneously what associations are caused by the given topic He must talk equally freely about his sexual fantasies, about any antagonism toward the physician or doubts regarding the merit and worth of the treatment It may take considerable time until the patient learns to relate absolutely spontaneously and uncensored those ideas that come to him as in daydreaming

In addition to the free associations, the analysis of dreams leads as *via regia* into the unconscious I frequently dispense with the association experiment and let myself, instead, be guided by dreams into the center of the unconscious conflict If the patient is asked to tell about his dreams at the next visit he almost invariably replies "I never dream," and just as invariably the patient will tell about a most significant dream when he comes again

Dreams are interpreted through free associations The question is again "What occurs to you in this connection?" It will be found that the essential dreams are all determined in many different ways The mechanisms of condensation, displacement, transference, and resistance are particularly at work in the formation of the manifest dream The actual conflict may be expressed by the same symbolism and the same dream action as analogous conflicts during puberty and childhood

It is only rarely, and after a long and deep analysis, that we come upon images from the primeval, nonindividual collective unconscious of Jung, which are common to all humanity Finally, we encounter the anagogic tendency of symbolism, and thus not only the actual or infantile part, but also the contents of the dream pointing to future events In this way a possible solution of the problem may be indicated

During all these analytic procedures the patient will continually be encouraged to focus his attention on the essential points, while the orthodox method permits the patient to lose himself indefinitely in his ideas and interpretations If, in the

course of the therapy, the patient complains of any physical discomfort he will be treated by means of suggestion or even medicaments, and in contrast to the rules of the analytic sect the patient must undergo a neurologic and general medical examination by the psychotherapist himself Often it will also be necessary to regulate the life of the patient during the analysis, to forbid strictly and demand certain things In certain cases, exercises for concentration and relaxation will be necessary, especially with patients with pronounced organ neuroses The exercises for relaxation are rendered easier to the patients if they are first trained by means of visualization of definite colors, especially of the restful blue

In other cases one may have to attempt to replace pathologic conditioned reflexes by new ones

At the end of the analysis it will be seen that the patient is by no means cured by the analysis alone Psychosynthesis and psychagogy must follow In the average case, however, it will be observed that at the end of the analytic treatment the structure of the patient's neurosis is very much shaken He himself may be in a state of analytic shock, he may have undergone a complete change, not only with respect to the neurotic parts of his personality A young person's complete outlook on life may be changed It is a mistaken belief of Freud's that an analysis is a cold, rationalistic method and nothing else It is unavoidable that the patient will be influenced by the psychotherapist's philosophy of life In the course of the treatment general problems of life will arise, and whether one wants to or not, one will have to enter the metaphysical world It must be avoided to propagate a superficial standard world outlook in the manner of Adler All of this takes place during and immediately after the analysis proper At the end of the latter the already changed patient undergoes a general repetition and the genesis of the symptoms is studied again within the frame of the development of the personality

The next step is of an actively educat-

ing, psychosynthetic, and psychagogic nature. Let us repeat that complete results are not attained by the analysis alone. If the patient desires, he may conclude from the analysis that his neurosis is unchangeable. If he wants differently, however (if we can make him want differently), he can start anew on the right road from that point where he took the wrong direction years ago and where he retrogressively arrived again by means of the analysis. Even in this phase, traces of resistance may be encountered. In every neurosis there is a gain of pleasure, every cure means denial of desire and loss of pleasure. We have to prove to the patient that it is far better for him to pay less attention to the principle of pleasure and to acknowledge the principle of reality. We shall compel him to make a better decision at the crossroad. When he arrives at this crossroad, by means of the analysis, it is up to him to choose freely between the denial of pleasure and a healthy mind and the neurosis. It will be the task of the psychotherapeutic personality to force the better decision.

In the preceding discussion I have differentiated between three phases of therapeutic work—(1) intensified anamnesis, (2) analysis, and (3) psychosynthesis and psychagogy.

The essential characteristics of the third phase are education, guidance, searching, and forming of new libido fixations in order to apply energies released from the neurosis after the patient has been forced to a better decision. We hope to be perfectly clear when we say that the division into analysis and synthesis must be more of an inner division in the mind of the psychotherapist than an actual time division in the course of the treatment. I believe, in other words that with sufficient practice both phases may be covered almost simultaneously. Synthesis and education may begin long before the analysis ends.

The significance of the nonanalytic methods has been discussed above. There are cases in which the analytic disclosure is not of the greatest importance. This applies to symptom complexes origi-

nated years ago from Freudian mechanisms but now petrified, rigid, and without meaning. Such symptoms may be based on a conflict which has gradually lost all significance because it has been resolved either inwardly or outwardly or simply because of the time which has passed. In such cases there remains merely a façade of symptoms with no substance but only a history. Roughly expressed, the symptoms have remained simply because they have become a habit. Instead of analyzing, it is more important to break up the patient's former pattern of behavior and to teach him facts leading to a new and better one.

A typical example of such a case was a woman pianist who suffered from stage fright. She could play only if she herself remained invisible to the audience. Moreover, any attempt at an erotic approach on the part of a man caused fear shyness, and a desire to escape in the twenty-one year-old patient. She herself knew exactly what the cause of this was—an incestuous relation which she had had with a brother nine years older than she, at the age of twelve to fourteen years. The essential factor, however, was not the incest, but the lost virginity. The patient suffered from an overestimation of the hymen taboo and seriously believed that the audience could sense her missing virginity. She fled if a man tried to approach her because she was afraid that an intimate situation might reveal the fact of her lost virginity to the man. There was little that could be analyzed in that case. She was enlightened about the different attitudes which different civilizations have with regard to the importance of the state of virginity, and cured by re-education on that basis. The knowledge of folklore, the psychology of religion and a study of the psychology of the primitive mind are absolute necessities for the psychotherapist.

In cases where a substance is still present behind the symptomatic façade this complex structure may sometimes be successfully broken up from the outside, from the façade, in a manner impossible to arrive at by analysis alone. In general

it is true that the outside, the façade, the symptom is only of secondary importance "What appears on the outside is present also on the inside" Sometimes, however, the sentence may be reversed "What is present on the inside, is apparent also on the outside" If it is possible to alter and regulate the expression, the inner surface of the disturbance will disappear too

Severe cases of compulsion neurosis disclose from the analysis only the deeper justification of their disturbance, and the façade itself remains to be attacked In severe cases of compulsion the analysis may cause real harm A patient who had been analyzed by an orthodox authority developed a new neurosis when he was asked to tell the analyst everything and to withhold nothing He was always afraid not to have told everything The analytic discovery of the origin of the disturbance is almost never of any use in cases of compulsion neurosis One patient who had been analyzed said to me "I always waited for the miracle, the promised breakdown of the symptoms, but nothing ever happened"

In moral disturbances, analysis is not the most important method (In this connection we do not talk of neuroses—kleptomania, criminal perversions—where the unmoral action is only the final result of a neurotic disposition, but of unbalanced, uninhibited impostor types) If any part of the personality is still healthy and reasonable, moral training and strengthening are more important than the analysis

In all neuroses resulting from an actual conflict, the moral factor plays a role inasmuch as it must be shown to the patient that escape from the conflict into illness betrays a lack of health conscience. This health conscience must be intensified at the same time as the analysis takes place in order to impress upon the patient that it is more honest to experience the conflict consciously than to become ill

Let us discuss briefly two more types of cases where nonanalytic psychotherapy is indicated On the basis of my experi-

ences with neurotic children who had been analyzed mostly by female analysts, orthodox psychoanalysis is considered inadvisable with neuroses during childhood Nevertheless, the psychotherapist dealing with children must be just as familiar with the analytic method as with any other

Patients with incurable, inveterate compulsion neuroses are helped best if they are trained to adapt themselves to their neuroses and if they are guided in finding possibilities of a compromise between reality and their neuroses The patient must be taught to bear his neurosis, and to make it serve higher purposes—"to brew balm out of poison," in Nietzsche's words

How, then, may psychotherapy be applied to psychoses? If any better method, like malaria, is available, psychotherapy is out of the question Schizophrenias, inasmuch as they show enough responsiveness to make an analysis possible, may be very much aggravated by an orthodox psychoanalysis Nevertheless, a psychotherapy of psychoses is possible It is not based on analysis, but on psychiatric tact, ability to sympathize, human understanding, and psychagogy At any event, the educational element must by no means be neglected Patients with hallucinations and delusions may be brought to a point where at least in their outward behavior a compromise with the world of reality is made They still hear their voices and hold on to their delusions, but they are able to push them somewhat into the background In Kretschmer's words, they hallucinate only for private use. The originally vivid picture of the psychosis fades away like an old painting

The psychotherapist wishing to achieve this will have to fulfill, at least to some extent, the requirements which Nietzsche expressed in these words "He must possess the persuasiveness that adjusts itself to every individual, a diplomat's suave way of negotiating, and the adroitness of a detective in understanding the secrets of a soul without betraying it."

I believe that he will have to possess all these qualities, because he does not, as the

analysts believe, apply his method like a purely scientific instrument, but he must work with the force of his whole personality, and not without passion. A grain

of charity will be needed too, for without it, to express it in St. Paul's words, his efforts would be 'as sounding brass or a tinkling cymbal.'

1165 Fifth Ave.

### A PHYSICIAN APPRECIATED

Gordon Bostwick Maurer M.D. a physician in Margaretville N.Y. was instantly killed on November 12, 1938 by the accidental discharge of his shotgun while hunting partridges. Dr. Maurer was graduated from Yale in 1923 interned at the New Haven Hospital and located in the little New York village in 1926. His death caused great distress to the people in his community.

The *Catskill Mountain News* the town's weekly paper not only devoted more than half of its first page to Dr. Maurer but there were seven different items in the issue in connection with the lamentable death of this brilliant young physician.

The finest testimonial of a medical man in years was published in a column *Mountain Dew* and signed *The Mountaineer*. In this day of proposed state medicine its proponents should read this encomium and ponder well.

The following is quoted verbatim from *The News*:

Thirteen years ago there came here a city chap trained in one of the great universities.

The other members of his class went to big towns.

He, with the best record of them all, wanted to begin the practice of medicine in a country village.

He had compiled a list of prospective communities. He looked over several and chose us.

An untried city college boy—with magic hands, a keen vision and uncanny knowledge of both the human body and the soul which activates it.

Soon after arrival he was called upon to care for a life given up as lost. He saved it.

He began to save others. He worked night and day. When he did not have proper appara-

tus or appliances he built some. When the snows kept him from patients he constructed a snowmobile.

Neither storm nor night nor mud nor snow kept him from the sick.

He took people into his home. It became a veritable hospital.

The fame of the boy spread throughout the section. Men and women from all walks of life asked for his attention.

The community built a hospital that he and others might the better care for those who needed care, medication and operation.

He continued. When a tired body all but gave up he took a year out and returned to Yale for special work that he might come home and serve better.

He had tired of city pastimes. The lure of the country had been breathed into his soul. Camp, rod and gun, open fires, life in the great outdoors gave zest, relief, happiness.

He loved our hills, our mode of life. He knew our ambitions, he smiled at our shortcomings.

He gave freely much of the work he did was without charge. Few knew the extent of his help to those who needed help. He served as few had ever served here before.

He was physician, parson, priest, confessor—we told him both our physical and mental troubles and he put us back on the road to reason and living.

Thirteen years he served. It was a life work worth while.

Today our hearts are numb at his loss, our senses belogged to know how to live without him.

Thank God for those thirteen years.

—*Medical Pocket Quarterly*

The legislature of New Mexico has passed a bill requiring physicians to be citizens of the United States.

The annual Spring Day' of the Cornell University Medical College Alumni Association will be on April 20 this year.



# THE RADIOLOGIC DIAGNOSIS OF CORONARY THROMBOSIS: A NEW APPROACH

L H BERK, M D , New York City

(From the Bellevue Hospital, First Medical Division)

**T**HE object of this presentation is to focus attention on the roentgen diagnosis of coronary thrombosis and to develop a greater familiarity with the objective and diagnostic evidence of the disease afforded by it

With the growing understanding of the clinical picture of coronary thrombosis, it is increasingly evident that a considerable number of patients survive their first attack and live many years thereafter with myocardial competence in spite of the fact that they frequently have repeated attacks of myocardial infarction with their sequelae <sup>1,2,4,5,6,13,16</sup>

The characteristic radiologic signs afforded by these cases have been rather neglected in the literature in favor of the clinical and electrocardiographic findings. Although the radiologic signs are often, in typical and atypical cases, no more than corroborative, they may form the only positive evidence of the disease

## Pathologic Considerations

The obstruction of a coronary artery of the heart, slowly produced by arteriosclerosis and often completed by thrombosis, causes the gradual degeneration of the cardiac muscle in the area supplied by the obstructed artery and its replacement by fibrous tissue. Such occlusion of the coronary arteries produces a rather characteristic position of the scars—in that they are most commonly found in relation to the anterior descending branch of the left coronary artery, the left circumflex branch of the left coronary artery, and also the right coronary artery.

Obstruction of the anterior descending branch of the left coronary artery commonly results in a scarring of the more anterior part of the interventricular septum, sometimes even extending through

to the right ventricle, and of the apical and more anterior part of the wall of the left ventricle. Obstruction of the left circumflex branch of the left coronary artery results in a scarring and thinning of the wall of the left ventricle in its more median portion. Obstruction of the right coronary artery produces a scar which begins sharply in the middle of the interventricular septum and extends backward behind the papillary muscles of the mitral valve to curve around on the more posterior part of the left ventricle.

In 26 cases of coronary occlusion studied by Barnes and Ball,<sup>1</sup> the coronary arteries, singly and in various combinations, were found to be involved in the following proportions: anterior descending branch, 69 per cent, circumflex branch, 27 per cent, right coronary, 35 per cent. According to Moritz and Beck,<sup>13</sup> occlusion of the left coronary occurred in 54 per cent of the cases, of the right coronary in 13 per cent, of the left and right coronary in 33 per cent. The descending branch of the left coronary was involved in 72 per cent, the circumflex portion of the right coronary in 42 per cent, and the circumflex portion of the left coronary in 12 per cent.

With the healing of a myocardial infarction, areas of scarring remain. The wall of the heart in this area becomes thinner, and stretching and bulging may result, giving rise to aneurysmal dilatation. The site of predilection is the apical region and the left lower pole. Development of this condition has been observed within a few weeks following an acute attack of coronary thrombosis. Localized pericardial thickening is commonly present at the site of the old infarction and mural thrombi are frequently formed on its inner surface. Both aneurysmal

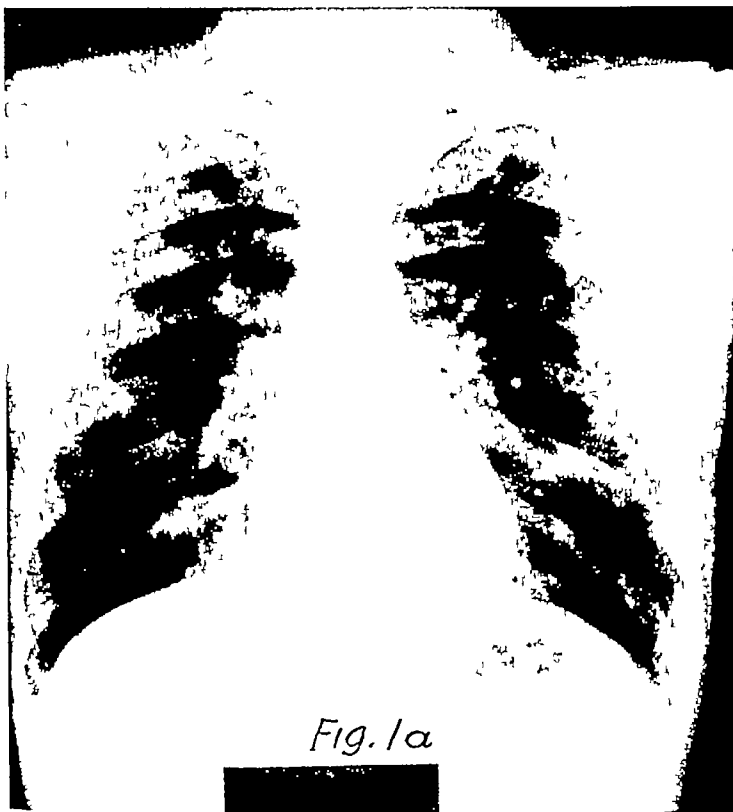


Fig. 1a

wall and thrombus may show calcification

Sternberg,<sup>41</sup> who in 1914 first described the typical course of chronic partial cardiac aneurysm, distinguished four stages (1) the stage of attacks of cardiac pain, often of very short duration, (2) the stage of localized pericarditis at the site of infarction, occasionally represented by a pericardial friction rub of only a few hours' duration, (3) the stage of latency, or apparent cure, lasting several weeks to many years, (4) the stage of advanced

myocardial disease, associated with chronic hydrops or leading to rupture.

#### Roentgenologic Features

The roentgenologic findings of coronary thrombosis allow us to visualize grossly these pathologic changes. During the stage of recent infarction, the roentgenologic procedure is naturally limited to radioscopy at the bedside. Indicative of myocardial damage is a diminished amplitude of ventricular contractions, most marked at the lower left cardiac

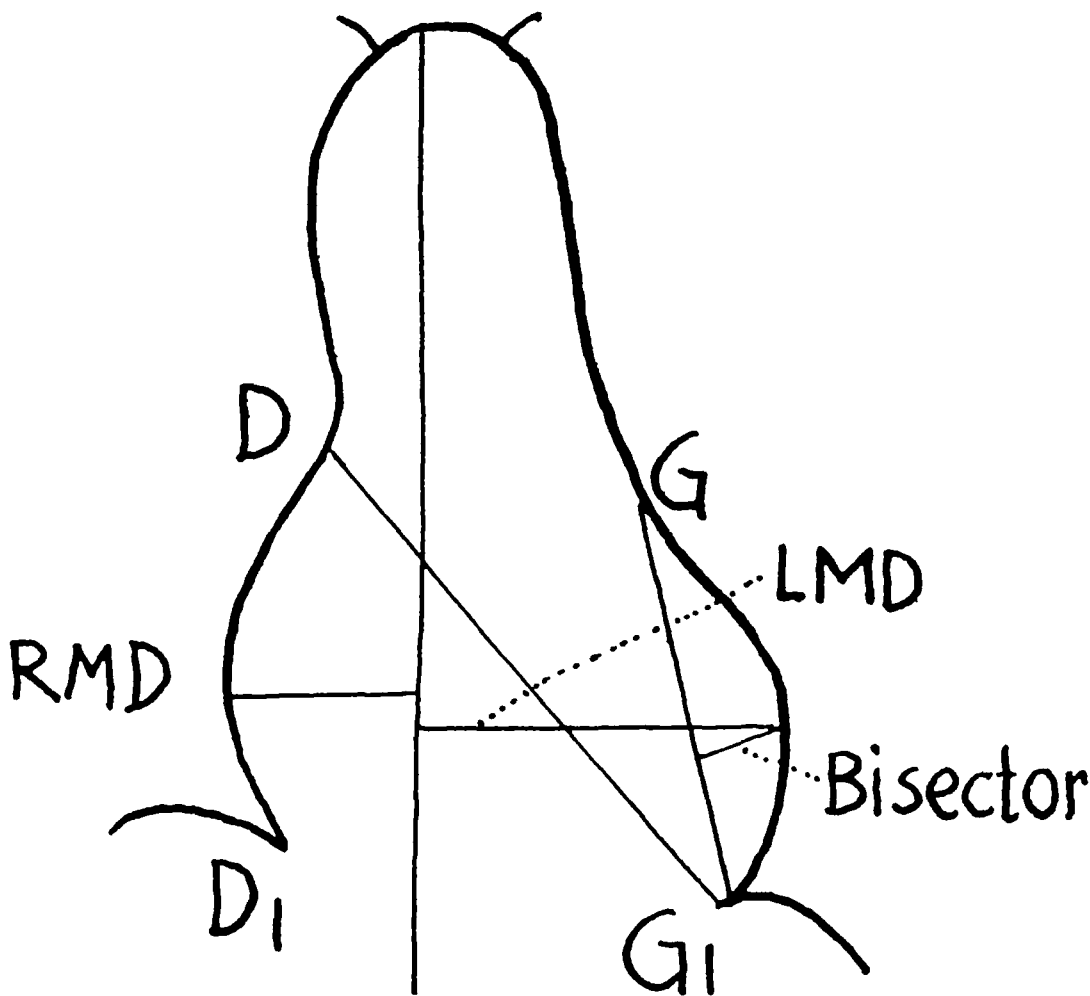


FIGURE 1b

pole where they are scarcely perceptible. Kymographic studies have demonstrated correspondingly silent areas, commonly in the middle portion of the left cardiac border (Stumpf<sup>28</sup>).

In measurement of the heart, four points on the cardiac silhouette are distinguished as landmarks. They are (1) the point D at the junction of the vascular trunk and the right ventricle, (2) the point D<sup>1</sup> at the junction of the right lower border and the diaphragm, (3) the point G at the junction of the pulmonary conus and the left ventricle, (4) the point G<sup>1</sup> at the most distant point of the left lower pole. (See Figure 1a.) The actual measurements are made by means of diameters drawn between these points.

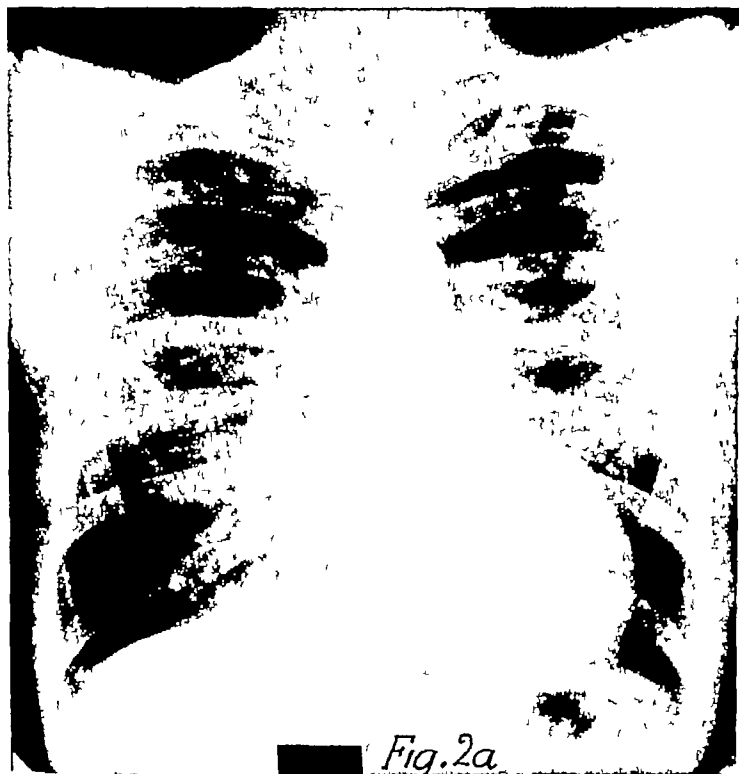
1 The long diameter is the distance between the points D and G,<sup>1</sup> normally about 13.6 cm.

2 The bisector of the left ventricle is a perpendicular dropped from the outermost point on the left ventricle to a line connecting G and G<sup>1</sup>. It is normally 1.2–1.8 cm.

3 The right median diameter is a perpendicular drawn from the midsternal line to the outermost point on the right border of the silhouette, normally 3.1–5.3 cm.

4 The left median diameter is a perpendicular drawn from the midsternal line to the outermost point on the left ventricle, normally 7.7–8.4 cm.

Having established the above system of measurements, we may now consider

*Fig. 2a*

the changes in the cardiac shadow brought about by coronary thrombosis

#### Size and Shape

In coronary thrombosis, one may distinguish two general types of heart (1) the arteriosclerotic type, and (2) the essential hypertensive type. While these two types may exist in combination, their production is dependent on different mechanisms, and they must be discussed separately. However, the size of the heart in many cases of coronary thrombosis is normal, examination after months and years may reveal no enlargement.

In type one (see Figure 1) the heart is not enlarged. It is triangular and flabby, sitting with a broad area in contact with the diaphragm. The left cardiac border is straight or concave, both the right and left median diameters lie almost on the same level, close to the diaphragm. The left ventricle is small. The amplitude of the ventricular contractions is markedly diminished.

In type two (hypertensive heart, see Figure 2), in the early stage during which one encounters only slight dilatation, the cardiac apex is displaced downward, the longitudinal diameter is increased, and the transverse diameter and the bisector

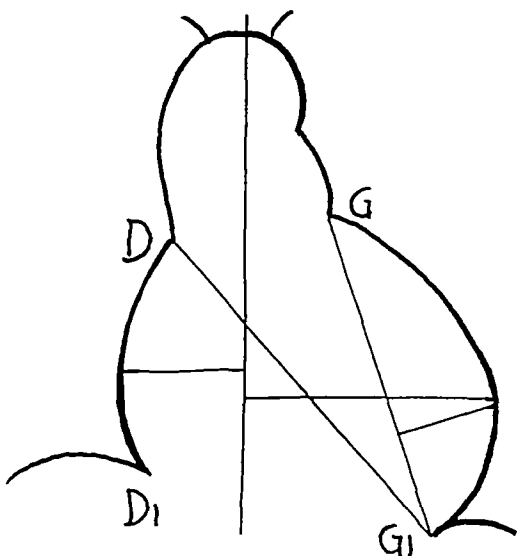


FIGURE 2b

of the left ventricle are normal. If the left ventricle becomes more prominent later, the bisector is much increased. In the advanced type, in long-standing cases with a marked left ventricular hypertrophy, all diameters are increased. In this stage of hypertrophy there is slight dilatation with moderate left enlargement and pronounced rounding off of the left lower pole. There is a heaving apex displaced upward one to two centimeters above the diaphragm and to the left.

When a coronary thrombosis occurs in a hypertensive heart, the gross appearance is little changed, the bisector being somewhat decreased. The amplitude of ventricular contraction, however, is greatly diminished.

Two case reports follow, illustrating these two types.

*Case 1*—P S, male, aged 41, while at work on September 27, 1934, was suddenly seized with a severe epigastric pain lasting for four hours, followed by a squeezing pain in the substernal area radiating to the neck. Physical examination on admission to the hospital revealed distant heart sounds, A2 greater than P2. B P 110/72, no cardiac enlargement. The next day his temperature rose to 102 F. EKG showed rapid changes of Q3 T3 type with low voltage. The course was uneventful except for recurrence of

precordial pain one month after admission, relieved by amyl nitrite. Because of marked EKG changes the patient was kept in the hospital for nine weeks and has been followed for the past three years in the cardiac clinic.

**X-ray Findings** (See Figures 1a, 1b) Heart not enlarged. Left cardiac border straight, diminished amplitude of ventricular contraction, sagged type of heart. Both hila moderately enlarged.

*Case 2*—P W, male, age 49, candy maker. Admitted to Bellevue Hospital April 29, 1935, complaining of sudden onset of precordial pain radiating down left arm lasting several hours. Physical examination on admission revealed an enlarged heart with gallop rhythm at apex and frequent extrasystoles. The point of maximal impulse was in the fifth intercostal space within the left nipple line. B P 172/84. Serial EKG showed changes suggestive of coronary thrombosis, Q1 T1 type and low voltage. The convalescence was uneventful, and the patient is now free from cardiac pain and doing a moderate amount of work. B P is now 120/74.

**X-ray Findings** (See Figures 2a, 2b) The enlarged diameters are drawn in Figure 2b. There is marked left ventricular hypertrophy and dilatation. The apex is rounded off and elevated. There is considerably diminished amplitude of ventricular contractions and absence of pulsation at the apex. The amplitude of the left auricular contractions, on the contrary, is increased.

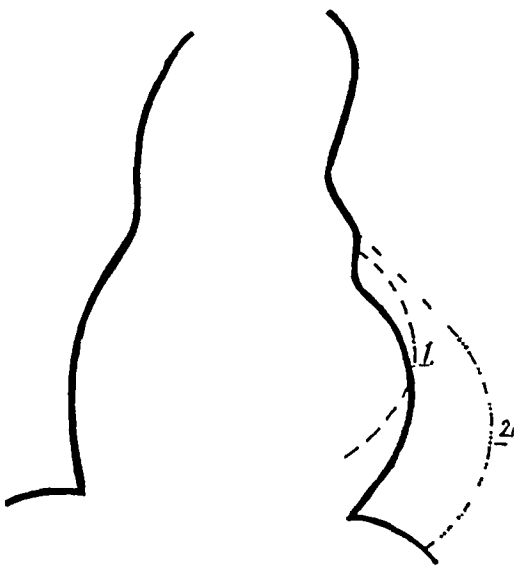


FIGURE 3

### Cardiac Aneurysm

A diffuse and eccentrically dilated cardiac apex (see Figure 3) with hardly perceptible systolic contractions is frequently encountered, following a typical attack of coronary thrombosis. In about half of the cases (Zadek<sup>42</sup>) the findings are very suggestive of apical infarction that has been followed by aneurysm if aortic regurgitation and decompensated hypertension can be excluded.

The circumscribed oval or angular bulging aneurysm (see Figure 4), varying in size and situated most commonly at the apex or middle portion of the left cardiac border, is less frequently seen. The pulsation in this area is absent, or rather indefinite, especially if the aneurysm is small, as in Figure 4 (1 and 1a), seen by Assmann.<sup>17</sup> Even the larger one may show no pulsation if marked pericardial thickening and adhesions or obliteration of the aneurysmal sac are present, as in the case 4 (6) reported by Boller.<sup>34</sup> The large aneurysms will occasionally show a passive pulsatory postsystolic lagging, as in the case reported by Kalisch<sup>41</sup> (Figure 4 [4]), and in the case in which Lenk<sup>43</sup> observed no marked pulsation during systole (Figure 3 [5]).

Sometimes the hypertrophic myocardium adjacent to the border of the aneurysm shows a marked prominence with systolic pulsations. This has been mistaken for the aneurysm itself, as in the case of Christian and Frik,<sup>39</sup> seen in Figure 4 (2, 2a) where the bulging in 2a was diagnosed as the aneurysm, because of its marked pulsation. The necropsy revealed only hypertrophic muscle at that point, while the aneurysm was situated at (2).

The calcification of the aneurysmal wall, which occasionally occurs, is curved and shows a systolic and sometimes rotatory pulsation, as in the case reported by Jaksch Wartenhorst.<sup>40</sup> Figure 4 (3, 5) reported by Brenner<sup>34</sup> shows a large calcified sacular aneurysm of the left ventricle near the base, which is quite an unusual location. Local pleuropericardial adhesions occur frequently and are

an indirect corroborative sign of some importance (See Figure 4 [1a]).

Aneurysms of the ventricular septum can be visualized only if large enough to cause a displacement of the right heart to the right (See Figure 4 [6] Boller<sup>34</sup>).

Direct roentgenologic visualization will be impossible if a cardiac aneurysm develops on the diaphragmatic or hepatic surface or retropericardially, or if it does not make up a part of the left cardiac

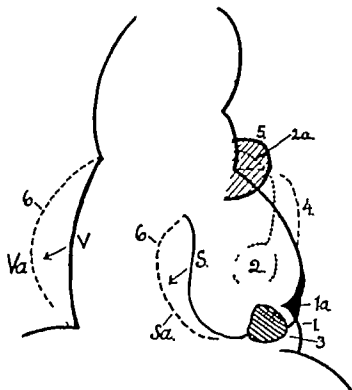


FIGURE 4

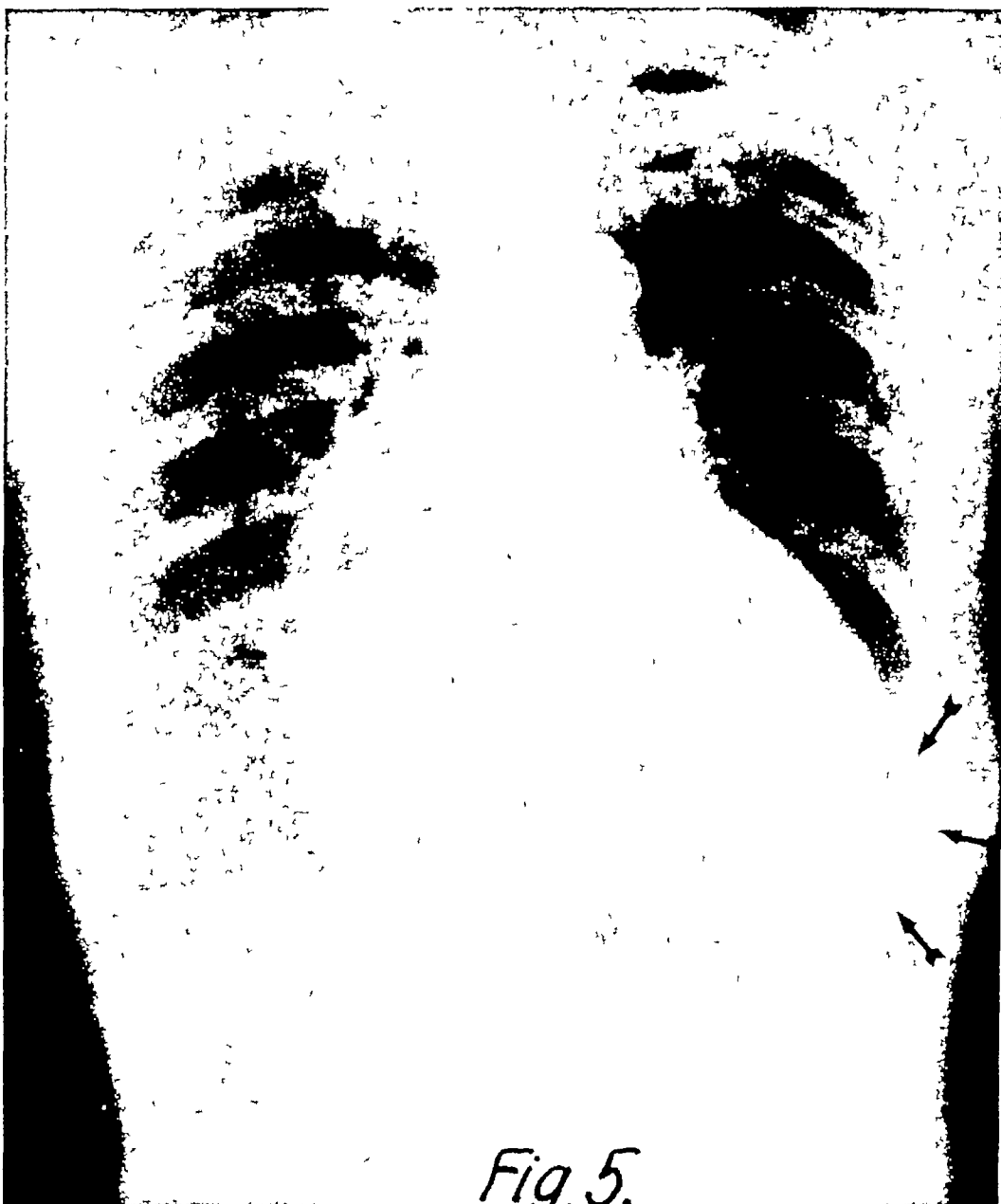
border, or if, due to adjacent pericardial thickening and adhesions, it does not show bulging or pulsations.

### Case Reports

Two case reports follow, to illustrate the diffuse and the circumscribed type of cardiac aneurysm.

**Case 3**—A. B. female, aged 70 first seen in the medical clinic in May 1935 with symptoms of heart disease present since 1926. Onset of illness was marked by sharp sticking precordial pain, palpitation and dyspnea followed by pulmonary infarction. Recovery slow.

Following that she had ten admissions to various hospitals because of cardiac decompensation. She had had frequent attacks of nocturnal dyspnea and edema of legs had been present in varying degrees for eight years. In



*Fig. 5.*

view of the patient's admissions to the hospital and the general satisfactory condition during the free periods, it was felt that total thyroidectomy might prevent or delay recurrence of decompensation.

Total thyroidectomy was performed on February 15, 1934, under cervical block anesthesia. The postoperative course was uneventful. The patient was readmitted in the eleventh postoperative week and again in the thirteenth postoperative month, with mild congestive

failure. On each occasion improvement was slow.

The patient was again admitted in October, 1935, 20 months postoperatively, with symptoms of congestive failure. She grew steadily worse, became psychotic, and finally died on December 26, 1935.

**Laboratory Data.** EKG showed normal sinus rhythm, with marked left ventricular preponderance and myocardial changes. The roentgenogram (Figure 5) shows a diffuse and eccentric

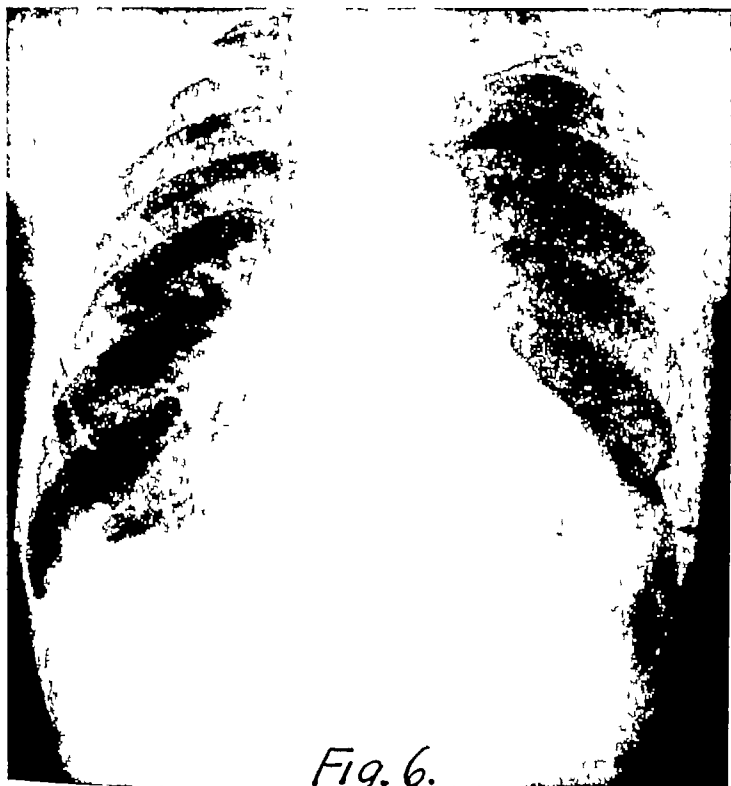


Fig. 6.

trically dilated cardiac apex. Radioscopy revealed a diminished pulsation.

Necropsy revealed an old thrombosis of the anterior descending branch of the left coronary artery and fibrosis of the myocardium. In the apex of the left ventricle there was an aneurysmal dilatation of the myocardium about 7 cm in diameter. The myocardium covering this aneurysm was very thin measuring a few millimeters in thickness. The overlying endocardium was firm and appeared to contain mostly fibrous tissue. From the tip of this aneurysm to the mitral ring, the wall of the left ventricle had become greatly thickened, so that at the mitral ring the wall of the left ventricle measured 3 cm in thickness. The anterior descending branch

of the left coronary artery was occluded about  $1\frac{1}{2}$  cm from the source of the artery. The remainder of the coronary arteries showed a marked thickening of the intima with atheromatous material.

*Case 4*.—M. W. female age 67 first began to notice shortness of breath and weakness in March 1932 followed by swelling of her feet and ankles. P. B. on admission revealed an enlarged heart. Point of maximal impulse in fifth intercostal space 12 cm. from midsternal line. Heart sounds at apex were distant with normal sinus rhythm. A2 greater than P2. B. P. 128/90. There was marked thickening of the peripheral vessels. The liver was just palpable and tender. There was slight pretibial



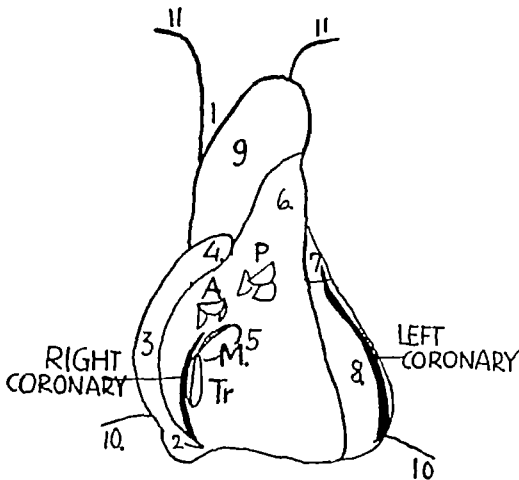


FIGURE 7a

edema She became progressively worse and died November 1, 1933

Laboratory Data EKG showed normal sinus rhythm, marked left ventricular preponderance, and myocardial changes Roentgenogram (Figure 6) shows small circumscribed bulging at the apex, radiosopic findings were not available

Necropsy revealed an old myocardial infarction and an aneurysm of the apex of the left ventricle, as well as previous coronary occlusion due to an organized and partially calcified thrombus in the descending branch of the left coronary artery The myocardium was hypertrophied and reddish brown in color, except in an area of the interventricular septum, 8 cm in diameter, where the myocardium was practically replaced by fibrous tissue, and where the entire thickness of the wall was about 4 mm This area bulged over the intervening right ventricle The endocardium over this area was smooth, but thickened No thrombus formation was seen



FIGURE 7b

### Coronary Arteries

The most important factor in the production of coronary thrombosis is sclerosis of the coronary arteries The calcified coronary arteries can be demonstrated roentgenologically if proper technic is used

One should search for them carefully under the radioscope, with the eyes well adapted and using the smallest diaphragm, preferably in the right oblique position They will be seen as dense linear shadows moving only slightly during systole, similar to the cardiac contour next to them, quite close to the left cardiac border in the region of the coronary sulcus On a speed film, the calcified coronary arteries appear as linear, curved, interrupted segments, sometimes double and parallel

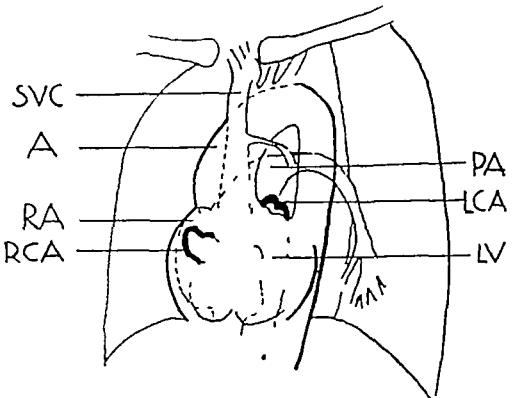


FIGURE 7c

### Differential Diagnosis of Intra- and Extracardiac Calcifications

The differential diagnosis of the various intracardiac calcifications, although difficult, can be made with modern radiosopic and radiographic technic

The calcified valves are situated more medially than the calcified coronary arteries (See Figures 7a, b, c, and d) The aortic valves are located low at the left border of the spine in the direct postero-anterior view, and about in the middle in the left antero-oblique view The calcified mitral valves are seen more to the left of the spine in the former view and

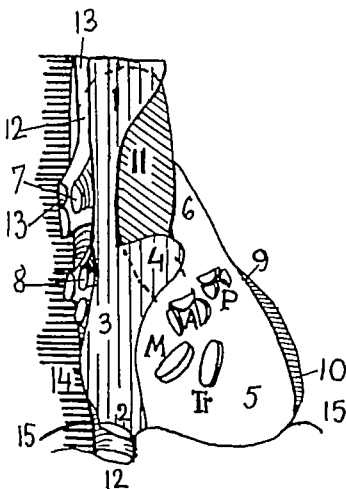


FIGURE 7d.

near the posterior cardiac wall in the latter view (See Figures 7a and c) They are usually semilunar, the mitral showing a marked pulsatory movement toward the apex and the aortic showing a dancing motion.

The calcified mural thrombi usually occur in mitral stenosis and are commonly situated in the left auricle. They are round or semilunar, dense, sharply outlined, larger than the valvular calcifications, and show a dancing motion synchronous with the heart.

Figure 8 shows a few thrombi radiologically recognized during life and confirmed by necropsy—calcified thrombi reported by Scholcz<sup>33</sup> (Figure 8 (1)), Beaser<sup>34</sup> (Figure 8 (2)), Heeren<sup>37</sup> (Figure 8 (5)), and noncalcified thrombi reported by Arendt<sup>44</sup> (Figure 8 (3)) and Fussl<sup>36</sup> (Figure 8 (4)).

The calcified cardiac aneurysms have been mentioned previously. They are semilunar, large, show a strong systolic pulsation, and have their site of predilection near the apex.

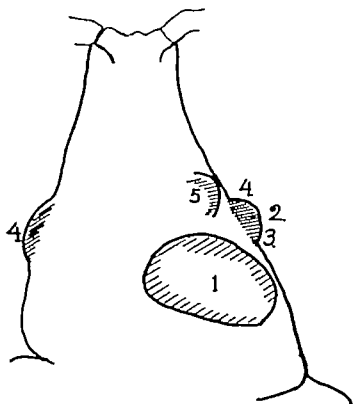
The pericardial calcifications are more

frequently located in the lower surface of the right ventricle, but also occur in the coronary sulcus, usually leaving the apex free. They are more solid, linear, often branching, and show only a minimal pulsation. On rotation, they can be seen to run parallel to the cardiac border (Cutler and Sosman,<sup>78</sup> Hessman and Israelski,<sup>79</sup> Jones and Roberts,<sup>80</sup> and Youmans and Merrill<sup>81</sup>).

Calcified costal cartilages are denser and more clear-cut and one can identify them by following their course. Calcified glands and calcifications in the lungs and mediastina are round and dense, and by rotation of the patient can be projected outside the cardiac shadow, they move upward and downward with respiration. The bronchi can be easily differentiated

### Discussion

*The Electrocardiographic Signs of Coronary Thrombosis*—It is apparent from our own experience and that of other observers that the typical case of coronary thrombosis is easily recognized. Yet the atypical case with the presence of substitution symptoms may very well be confused and requires the use of special diagnostic methods, such as electrol



THROMBI

FIGURE 8.

cardiographic changes and radiologic findings for corroboration

The atypical form of coronary thrombosis is found in a rather high percentage of cases after the first attack of coronary thrombosis. Such repeated episodes of coronary occlusion present a bizarre picture in the majority of cases. These cases of multiple myocardial infarction are not easily recognized without the aid of electrocardiographic changes and x-ray findings.

The popular view, supported by many investigations, is that the electrocardiographic changes due to myocardial damage after the coronary thrombosis are of two types: (a) inverted T1, T2 (Q1 T1 class), and (b) inverted T2, T3 (Q3 T3 class). There is still another group of cases, comprising, according to some authors, about 50 per cent of the cases of coronary thrombosis, whose electrocardiographic changes are not typical of the above two classes, and these may be difficult to recognize. The occurrence of this type of case must be kept in mind as a possibility, and makes necessary the use of other corroborative methods for accurate diagnosis. In coronary thrombosis the radiologic findings may be the only positive objective evidence that the disease is present.

*The Radiologic Signs of Coronary Thrombosis*—A survey of the literature shows that there is much contradictory opinion as to the cardiac enlargement following coronary thrombosis. Although coronary thrombosis might cause some hypertrophy (Parkinson<sup>25</sup>) or occasionally some acute dilatation (Roesler<sup>26</sup>), cardiac enlargement as a result of coronary thrombosis alone is not a common feature unless other concomitant factors are present, the common being hypertension (Parkinson,<sup>25</sup> Palmer,<sup>23,24</sup> Bartels and Smith,<sup>18</sup> Horine and Weiss,<sup>19</sup> Roesler,<sup>26</sup> and Uhlenbruck<sup>29</sup>).

Palmer,<sup>24</sup> in a well-observed group of 200 cases, determined radiologically that the heart was not enlarged in 36 per cent and that it was enlarged in 64 per cent. Of these, 80 per cent were due to a concomitant hypertension.

Regarding cardiac aneurysm following coronary thrombosis, it is safe to say that without the radiologic aid their diagnosis cannot be made with certainty, although a small number of aneurysms, as mentioned above, may escape roentgenologic visualization. Their incidence at necropsy varies from 3 per cent (Palmer<sup>24</sup>) to at least 9 per cent (Bedford,<sup>14</sup> Levine,<sup>7</sup> Lisa<sup>10</sup>). In our group of 25 necropsies it was found in 6 cases, 4 of them with hypertension. Zadek,<sup>52</sup> who found it radiologically much more frequently, states that the diffused type occurs in about half of his cases. Still, there are only a few cases reported in literature where cardiac aneurysms were correctly diagnosed roentgenologically during life and confirmed by necropsy.

As to the coronary arteries, the connective tissue and atheromatous changes of the intima are not directly demonstrable by the x-ray. However, calcareous depositions in the wall can be visualized, and they, too, indicate the narrowing of the vessel.

Only a few cases of calcified coronary arteries have been demonstrated roentgenologically during life (Lenk,<sup>43</sup> 1 unconfirmed case, Wosika and Sosman,<sup>73,74</sup> 3 cases occurring in angina pectoris, 1 of them confirmed by necropsy). The large amount of calcareous material so frequently found in the coronary arteries at necropsy would indicate that, with an improved radiosopic and radiographic technic and a greater experience on the part of the examiner, a much larger number will be recognized during life.

During the attack, the roentgenologic diagnostic procedures are naturally limited. In the late stage, the follow-up work and exact history are often neglected by the radiologist, whereas the cardiologist is very often not sufficiently acquainted with modern radiologic, technical, and diagnostic methods.

### Summary

A careful study of the radiologic evidence of coronary thrombosis helps us to become familiar with the corroborative

signs of the disease. The roentgenologic findings of coronary thrombosis allow us to classify hearts as of two general types on the basis of size and shape (1) the arteriosclerotic type, and (2) the essential hypertensive type

In type one the heart is not enlarged, is triangular, flabby, sitting with a broad base in contact with the diaphragm. The left cardiac border is straight or concave. Both the right and left median diameters lie in almost the same plane, close to the diaphragm

In type two (hypertensive heart) in the early stage the cardiac apex is displaced downward. In the advanced stage there is a pronounced rounding off of the left lower pole, with a heaving apex displaced upward.

In the typical and atypical forms of coronary thrombosis, the radiologic findings may be the only positive objective evidence of the disease

Radiologic examination is of utmost value in the diagnosis of cardiac aneurysms and mural thrombi following coronary thrombosis. In the future, a larger number of cases of calcification of the coronary arteries will be recognized through improved radioscopic and radiographic technic.

Only if one is vigilant and constantly aware of the characteristic radiologic signs, will it be possible to make the roentgenologic diagnosis of coronary thrombosis more frequently than in the past.

## References

### Pathology of Coronary Thrombosis

1. Barnes, A. B. and Ball, R. G. *Am. J. Med. Sc.* 133: 215 (1932)
2. Connor, L. A. and Holt, E. *Amer. Heart J.* 5: 705 (1930)
3. Jagerow, B.: *Z. klin. Med.* 106: 71 (1927)
4. Hochrein, M.: *Der Myokardinfarkt* Berlin (1937)
5. Hochrein, M., and Seggel, K. A. *Z. klin. Med.* 123: 160 (1933)
6. Hochrein, M., and Schueyer, K. *Z. Kreislauforg.* 28: No 8: 257 (1930)
7. Levine, S. A.: *Coronary Thrombosis: Its Various Clinical Features*. Baltimore: The Williams and Wilkins Co. (1929)
8. Levy, H. L.: *Diseases of the Coronary Arteries and Cardiac Pain* (1936)
9. Libman, E.: *Tr. Assn. Amer. Phys.* 34: 133 (1919)
10. Liss, J. R., and Ring, A.: *Arch. Int. Med.* 50: 131 (1932)
11. Master, A. M., and Jaffe, H. L.: *J. Amer. Med. Assn.* 104: 1,212 (1935)
12. McCallum, W. G.: *Libman Anniversary Volume*, Vol. II: 753-757 (1933)

13. Moritz, R. A., and Beck, C. S. *Amer. Heart J.* 10: 874 (1935)
14. Parkinson, J., and Bedford, D. E. *Lancet* 1: 4 (1928)
15. Sutton, D. C., and Lueth, H. *Diseases of the Coronary Arteries*. C. V. Mosby Co. (1932)
16. Williams, F. A. *J.A.M.A.* 106: 1,890 (1936)

### Cardiac Silhouette

17. Asmann, H. *Die Klinische Roentgen. Diag. nordt. der Inneren Krankheiten*, Berlin, Vogel (1934)
18. Bartels, E. C., and Smith, H. S. *Amer. J. M. Sc.* 184: 452 (1932)
19. Horine, E. F., and Weiss, M. M.: *Amer. J. M. Sc.* 189: 858 (1935)
20. Laubry, Ch., Cottenot, P., Roullet, D., Heim, de Balmac, R., Radiol. et d'Electrol. 1er Memoire (May) 1935 19 0 193 2e Memoire (Oct.) 1935 19 10, 561 3e Memoire (Dec.) 1935 10 12 4e Memoire (Feb) 1936 26 2
21. Levine, G., Wheatley, E. F., and Matthews, H. *Amer. J. Roentgenol.* 31: 5 (1934)
22. Miller, H. R., and Weiss, M. M. *Arch. Int. Med.*, 42: 74 (1928)
23. Palmer, J. H.: *The Quarterly J. Med.* 6: 21 (1931)
24. Palmer, J. H.: *The Development of Cardiac Enlargement in Disease of the Heart*. A Radiological Study. London: Med. Research Council (1937)
25. Parkinson, J.: *Lancet* 1: 1,337 (1936)
26. Roeder, H.: *Klinische Roentgenologie of the Cardio-Vascular System*. Baltimore: Thomas (1937)
27. Roullet, D., Heim, de Balmac, R., Joly, F., and Lemant, J. *Presse Med.* 56: 1,129 (1936)
28. Stumpf, P., Weber, H. H., and Weitz, G. A.: *Roentgenkymographische Bewegungslehre Innerer Organe*, Leipzig (1936)
29. Uhlenbruck, P.: *Die Herzerkrankheiten im Roentgenbild und Elektrokardiogramm*. Leipzig (1936)
30. Vaguez, H.: *Radiologie du Coeur des Vaisseaux de la Base*. Paris (1928)

### Cardiac Aneurysms

31. Albrecht, H. U. *Zentralbl. f. Inn. Med.* 53: 557 (1932)
32. Hauke, E. B. *Roentgenpraxis* 5: 444 (1933)
33. Bedford, D. E. *Proc. Roy. Soc. Med.* 21: 19-32 (1928)
34. Bolter and Pagni: *Fortschr. a. d. Geb. d. Roentgenstr.* 45: 318 (1932)
35. Bramwell, J. C., and Duguid, J. B. *Quart. J. Med.* 21: 187 (1928)
36. Brenner, Franz, and Wachner, G.: *Fortschr. a. d. Geb. d. Roentgenstr.* 54: 243 (1936)
37. East, T. *Proc. Roy. Soc. Med.* 26: 518 (1933)
38. Fogel, E. J.: *J.A.M.A.* 100: 59 (1933)
39. Frick, C.: *Klin. Wchnschr.* 1: 582 (1923)
40. Jaksch, Wartenhorst, R.: *Fortschr. a. d. Geb. d. Roentgenstr.* 33: 563 (1928)
41. Kallisch, Z.: *Wien. klin. Wchnschr.*, 40: 1,078 (1927)
42. Kraus, F.: *Berl. klin. Wchnschr.* 56: 629 (1919)
43. Lent, R.: *Fortschr. a. d. Geb. d. Roentgenstr.* 35: 1,265 (1926)
44. Lutembacher, R.: *Arch. d. mal. du coeur*, 11: 434 (1918), and *Les lesions organiques du coeur*. Paris: Masson (1936)
45. Lutembacher, R.: *Arch. d. mal. du coeur* 13: 49 (1920)
46. Regelsberger, H.: *Roentgenpraxis* 6: 806 (1934)
47. Szary, A., and Alibert, J.: *Bull. et mem. Soc. Med. d. hop. de Paris* 46: 172-170 (1923)
48. Sigler, L. H., and Schneider, J. J.: *Ann. Int. Med.* 8: 1033 (March) 1935
49. Shookhoff, C., and Douglas, A. H.: *Amer. Heart J.* 7: 95 (1931)
50. Steel, D.: *J.A.M.A.* 102: 432 (1934)
51. Sternberg, M.: *Das Chronische Partielle Herzaeurysma*. Wien (1914)
52. Zadek, E.: *Deutsch. Med. Wchnr.* 58: 1961 (1932)
53. Zadek, E.: *Klin. Wchnr.* 21: 255 (1932)

### Cardiac Thrombi

54. Arendt, J.: *Roentgenpraxis* 2: 878 (1930)
55. Beiser, P., and Schilling, C.: *Deutsch. Arch. f. klin. Med.* 175: 60 (1933)
56. Fasel, E.: *Roentgenpraxis* 8: 377 (1936)
57. Heeren, J.: *Fort. a. d. Geb. Rontgenstr.* 50: 490 (1934)
58. Scholks, T.: *Fort. Rontgenstr.* 32: 416 (1924)

### Coronary Arteries

59. Jones, E. W.: *Quart. J. Med.* 24: 199 (1931)
60. Soeman, M. C., and Wouda, P. H.: *J.A.M.A.*, 102: 691 (1934)

cardiographic changes and radiologic findings for corroboration

The atypical form of coronary thrombosis is found in a rather high percentage of cases after the first attack of coronary thrombosis. Such repeated episodes of coronary occlusion present a bizarre picture in the majority of cases. These cases of multiple myocardial infarction are not easily recognized without the aid of electrocardiographic changes and x-ray findings.

The popular view, supported by many investigations, is that the electrocardiographic changes due to myocardial damage after the coronary thrombosis are of two types: (a) inverted T<sub>1</sub>, T<sub>2</sub> (Q<sub>1</sub> T<sub>1</sub> class), and (b) inverted T<sub>2</sub>, T<sub>3</sub> (Q<sub>3</sub> T<sub>3</sub> class). There is still another group of cases, comprising, according to some authors, about 50 per cent of the cases of coronary thrombosis, whose electrocardiographic changes are not typical of the above two classes, and these may be difficult to recognize. The occurrence of this type of case must be kept in mind as a possibility, and makes necessary the use of other corroborative methods for accurate diagnosis. In coronary thrombosis the radiologic findings may be the only positive objective evidence that the disease is present.

*The Radiologic Signs of Coronary Thrombosis*—A survey of the literature shows that there is much contradictory opinion as to the cardiac enlargement following coronary thrombosis. Although coronary thrombosis might cause some hypertrophy (Parkinson<sup>25</sup>) or occasionally some acute dilatation (Roesler<sup>26</sup>), cardiac enlargement as a result of coronary thrombosis alone is not a common feature unless other concomitant factors are present, the common being hypertension (Parkinson,<sup>25</sup> Palmer,<sup>23,24</sup> Bartels and Smith,<sup>18</sup> Horne and Weiss,<sup>19</sup> Roesler,<sup>26</sup> and Uhlenbruck<sup>29</sup>).

Palmer,<sup>24</sup> in a well-observed group of 200 cases, determined radiologically that the heart was not enlarged in 36 per cent and that it was enlarged in 64 per cent. Of these, 80 per cent were due to a concomitant hypertension.

Regarding cardiac aneurysm following coronary thrombosis, it is safe to say that without the radiologic aid their diagnosis cannot be made with certainty, although a small number of aneurysms, as mentioned above, may escape roentgenologic visualization. Their incidence at necropsy varies from 3 per cent (Palmer<sup>24</sup>) to at least 9 per cent (Bedford,<sup>14</sup> Levine,<sup>7</sup> Lisa<sup>10</sup>). In our group of 25 necropsies it was found in 6 cases, 4 of them with hypertension. Zadek,<sup>52</sup> who found it radiologically much more frequently, states that the diffused type occurs in about half of his cases. Still, there are only a few cases reported in literature where cardiac aneurysms were correctly diagnosed roentgenologically during life and confirmed by necropsy.

As to the coronary arteries, the connective tissue and atheromatous changes of the intima are not directly demonstrable by the x-ray. However, calcareous depositions in the wall can be visualized, and they, too, indicate the narrowing of the vessel.

Only a few cases of calcified coronary arteries have been demonstrated roentgenologically during life (Lenk,<sup>43</sup> 1 unconfirmed case, Wosika and Sosman,<sup>73,74</sup> 3 cases occurring in angina pectoris, 1 of them confirmed by necropsy). The large amount of calcareous material so frequently found in the coronary arteries at necropsy would indicate that, with an improved radiosopic and radiographic technic and a greater experience on the part of the examiner, a much larger number will be recognized during life.

During the attack, the roentgenologic diagnostic procedures are naturally limited. In the late stage, the follow-up work and exact history are often neglected by the radiologist, whereas the cardiologist is very often not sufficiently acquainted with modern radiologic, technical, and diagnostic methods.

## Summary

A careful study of the radiologic evidence of coronary thrombosis helps us to become familiar with the corroborative

# URINARY INFECTIONS IN INFANTS AND CHILDREN

## A Comparison of Therapeutic Methods

BENJAMIN W. CAREY, JR., M D , Boston

(From the Department of Pediatrics Harvard Medical School and the Infants and the Children's Hospitals Boston)

THIS afternoon I wish to point out some of the methods of approach to the study of patients with infection in the urinary tract. I propose to point out briefly certain diagnostic procedures and to present a comparison of results obtained in two groups of patients, one group having been treated with mandelic acid, the other with sulfanilamide

### Investigation of Patient with Urinary Infection

The presence of an unexplained fever, abdominal pain, or even vomiting and diarrhea, or symptoms referable to the genitourinary tract, such as frequency or pain on urination, should lead one to suspect the presence of infection in the urinary tract. The finding of leukocytes, erythrocytes, or casts in a centrifuged specimen of urine usually suffices to establish the diagnosis. It should be remembered that a negative sediment from an uncentrifuged urine specimen does not absolutely exclude the presence of leukocytes, erythrocytes or casts in the urine. In the event that abnormal elements are found in the sediment, anomalies or infection in the vagina or urethra should be excluded before proceeding further with the investigation.

As a further means of securing information as to the presence of an infection, urine should be obtained by catheterization and examined for the presence of leukocytes, erythrocytes or casts. A portion of the specimen should be cultured to determine the nature of the infecting organism. The procedure of catheterization will furnish information as

to the volume of residual urine and may help to exclude the presence of a posterior urethral anomaly, especially in boys.

The second step in the study of a patient with infection in the urinary tract is to secure a flat roentgenogram of the abdomen, including the bladder. This procedure may give information as to the size of the kidneys, the presence of large intra abdominal masses, or renal or bladder calculi. As a measure of kidney function valuable information may be secured by measuring the blood pressure and estimating the nonprotein nitrogen in the blood.

These procedures may be quite adequate if the infection is the initial attack of the patient, but in the event of recurrent attacks of infection or an infection of long duration, further studies of the urinary tract and function of the kidneys are desirable. These should include a test for the concentrating power of the kidneys, an intravenous pyelogram and, if evidence is at hand of diminished kidney function or anomalies in the urinary tract, it may be necessary to obtain a urea clearance test and even to perform a cystoscopy and obtain retrograde pyelograms.

If the infection is the patient's first attack and it has been demonstrated that the kidneys have normal concentrating ability and that the blood nonprotein nitrogen, blood pressure, and intravenous pyelograms are normal, medical treatment may be instituted without performing cystoscopy and retrograde pyelography.

If unsatisfactory evidence has been ob-

tained from intravenous pyelography, a cystogram may be done prior to retrograde pyelography. Information may be secured from this procedure as to the presence of a diverticulum of the bladder, tumors of the bladder, and posturethral obstruction.

Indications for cystoscopy may include (1) evidence from intravenous pyelography of impaired function of one kidney or a portion of a kidney, (2) absence of a part of the urinary tract, (3) evidence of an anomaly of the bladder or urethra, and (4) the necessity of examining the urine and determining the function of each kidney separately. However, if inoperable bilateral abnormalities are observed in the intravenous pyelogram or if the kidney function is markedly diminished, cystoscopy may be contraindicated.

To obtain successful intravenous pyelograms, certain general principles must be followed. It is necessary to restrict the fluid intake of the patient for some hours preceding injection of the dye to obtain a concentration of at least 1:20 of the urine, as experience has proved that unless this concentration is attained, the dye will not be sufficiently concentrated to give proper visualization of the urinary tract. The presence of an excess amount of gas in the small intestine will obscure the dye in the urinary tract. Measures to control excessive amounts of gas include the limitation of diet prior to injection of the dye, the administration of mild cathartics and small enemas, and even the use of drugs such as pitressin to facilitate removal of the gas. A flat roentgenogram of the abdomen should always be taken prior to injection of the dye to secure information as to the amount of gas in the intestine, and if it is found to be excessive the procedure should be postponed until the proper conditions are attained for good visualization of the urinary tract. The dose of the intravenous dye should be adequate and it should be remembered that the dose for infants is relatively larger than the dose for older children. It is cus-

tomary to take roentgenograms five, fifteen, and thirty minutes after injecting the dye.

### Mandelic Acid

The use of sulfanilamide has almost entirely replaced mandelic acid in the treatment of urinary infections, except in the case of sensitivity to sulfanilamide as manifested by one of the toxic reactions to be described later, or the presence of a species of bacteria resistant to destruction by sulfanilamide.

It is desirable to review briefly the knowledge concerning the mode of action and plan of treatment of mandelic acid.

Rosenheim,<sup>1</sup> in 1935, showed that the antiseptic power of mandelic acid depended on a concentration of the drug in the urine between 0.5 per cent and 1.0 per cent, and the maintenance of a high degree of acidity of a pH of 5.6 or below. Helmholtz and Osterberg<sup>2</sup> verified the factors of acidity of the urine and concentration of mandelic acid and found that all members of the colon-aerogenes group of bacteria and some of the paratyphoid and dysentery-like organisms were easily killed, but that some strains of the streptococcus fecalis and the bacillus proteus were often insufficiently inhibited in their growth for effective results.

In considering the use of mandelic acid it is important to remember that prolonged urinary infection or the presence of congenital abnormalities in the genito-urinary tract may result in kidney dysfunction which will not allow sufficient concentration of the urine, and the proper degree of acidity will not be attained. Campbell and Lyttle<sup>3</sup> have shown that chronic pyelonephritis is accompanied by such abnormalities in a considerable percentage of patients.

The drug is administered in the form of a 10 per cent elixir of ammonium mandelate. The total daily dose is estimated so that a 1 per cent concentration in the urine may be constantly maintained. It is necessary to restrict the fluid intake of the patient to maintain this concentration. The acidity of the urine should be

checked daily to ascertain if the pH is at the necessary level of 5.6 or below. Occasionally it may be necessary to supplement the mandelic acid with an acid salt such as ammonium chloride to obtain a urine which is sufficiently acid.

The sediment of a centrifuged specimen of urine should be examined daily to detect the appearance of erythrocytes or casts. If these elements appear, having been previously absent, an irritant effect of the mandelic acid on the kidney may be occurring.

The mandelic acid should be continued at least one week after the urine culture has become sterile. A limit of three weeks is placed on the continuation of therapy because if sterilization of the urine has not occurred within this time it is not likely to occur by prolongation of therapy.

#### Sulfanilamide

Kenny<sup>3</sup> reported the results obtained in the treatment of pyelitis complicating pregnancy with sulfanilamide. The dosage of the drug was small and no alkali was given with the sulfanilamide. The urine concentration of free sulfanilamide was not over 100 mg per cent in any of the patients. He stated that favorable results were obtained when the infecting organism was a member of the colon-aerogenes group, but the streptococcus fecalis was not destroyed by the drug.

Mellon and Shinn<sup>4</sup> studied the action of sulfanilamide *in vitro* on the colon bacillus. They found that a better demonstration of the bactericidal action occurred when urine, rather than broth, was used as a diluent for the bacteria, and that a pH of 7.2, rather than 6, favored bactericidal action.

Helmholz<sup>5</sup> found that sulfanilamide in small doses accompanied by sufficient alkali to increase the pH of the urine to 7.2 or above was effective in sterilizing the urinary tract if the infecting organism belonged to the colon aerogenes group or was the bacillus proteus. He stated that if the streptococcus fecalis was the causative organism, sterilization of the urine did not occur.

Long,<sup>6</sup> in a recent address, verified the studies of Mellon and Shinn,<sup>4</sup> and stated that sulfanilamide was effective in curing urinary infections due to the colon bacillus, the staphylococcus, the B hemolytic streptococcus, and the bacillus proteus, but that no bactericidal action occurred in infections caused by the streptococcus fecalis. He suggested that sulfanilamide be administered with alkali, and the fluid intake be restricted so that a concentration of free sulfanilamide in the urine of 200-400 mg per cent might be maintained.

The exact mode of action of sulfanilamide has not been discovered. Suggestions offered include a direct bactericidal action, stimulation of phagocytosis, destruction of the capsule of the bacteria, neutralization of toxin produced by the bacteria, and chemical change in the bacterial cell. Certainly no one of these suggestions can be the sole factor because the organisms for which sulfanilamide seems to be effective do not have characteristics necessary to fulfil each of these suggestions.

The previously quoted studies have shown that the objects to be attained are a concentration of free sulfanilamide in the urine from 100 to 400 mg per cent and a pH of the urine of 7.2 or higher. The lower concentration seems to be sufficient if the infecting organism is a member of the colon aerogenes group or the staphylococcus. Higher concentrations are necessary if the organism is the streptococcus fecalis or the bacillus proteus. The collection of the total twenty-four hour urine specimen in adult patients for the determination of free sulfanilamide is a relatively easy matter but the difficulty of such collections in infants and young children makes it more feasible to regulate the dose of the drug on the basis of the concentration of free sulfanilamide in the blood. The optimum level of the blood concentration seems to be from 8 to 12 mg per cent. The dose necessary to maintain this blood concentration varies from 1.5 grains per pound of body weight per 24 hours in infants to 0.75 grain per pound



CHART I—MANDELIC ACID

| GROUP           | NO<br>OF<br>CASES | MALE | FEMALE | SUCCESS | FAILURE<br>TO<br>STERILIZE | RECURRENCE<br>< 2<br>Weeks | RECURRENCE<br>> 2<br>Weeks | NO<br>FOLLOW-<br>UP | REACTION |
|-----------------|-------------------|------|--------|---------|----------------------------|----------------------------|----------------------------|---------------------|----------|
| <i>Infants</i>  |                   |      |        |         |                            |                            |                            |                     |          |
| I               | 9                 | 2    | 7      | 8       | 1                          | 0                          | 1                          | 2                   | 0        |
| II              | 3                 | 0    | 3      | 0       | 2                          | 1                          | 0                          | 1                   | 0        |
| III             | 3                 | 1    | 2      | 3       | 0                          | 0                          | 0                          | 1                   | 1        |
| <i>Children</i> |                   |      |        |         |                            |                            |                            |                     |          |
| I               | 5                 | 0    | 5      | 5       | 0                          | 0                          | 1                          | 1                   | 0        |
| II              | 9                 | 1    | 8      | 5       | 4                          | 1                          | 2                          | 1                   | 4        |
| III             | 11                | 0    | 11     | 11      | 1                          | 0                          | 3                          | 0                   | 0        |
| Totals          | 40                | 4    | 36     | 32      | 8                          | 2                          | 7                          | 6                   | 5        |

Group I—Acute infection without anomalies in urinary tract.

Group II—Chronic or recurrent infection lasting over two months with anomalies.

Group III—Chronic or recurrent infection lasting over two months without anomalies

in children ten to twelve years of age. Experience has shown that a constantly alkaline urine (pH 7.2 or above) cannot be attained without the use of sodium bicarbonate in conjunction with the sulfanilamide. In infants, approximately 2 grains of the alkali per pound per 24 hours is necessary to attain the proper alkalinity. One grain per pound will usually suffice in older children. The sulfanilamide and sodium bicarbonate should be given at either four- or six-hour intervals to maintain a constant concentration of the drug in the blood. The fluid intake of the patient should remain at the minimal side of normal for the age and weight of the patient or from 800 cc each 24 hours in an infant to 1,400 cc in a child of ten to twelve years.

A culture of the urine should be obtained three days after the sulfanilamide is started and at intervals of two to three days until the culture remains sterile. The full dosage should be maintained at least two days after the culture becomes sterile, then decreased to about one-half the estimated amount and continued two or three days so that a recurrence of the infection will not occur.

The pH of the freshly voided urine should be checked at least once daily by the addition of three or four drops of a 0.04 per cent aqueous solution of phenol red to 5 cc of urine. If the resulting color is pink or red the proper pH of 7.2 or above has been reached. If the color remains yellow after the addition of the indicator it signifies that the dose of the sodium bicarbonate should be increased.

The urinary sediment should be ex-

amined daily for the presence of leukocytes as this is an additional index of the response of the infection to the specific therapy.

It is advisable to determine the blood leukocyte level at intervals of two or three days to detect evidence of the onset of leukopenia.

The patient should be examined daily for the presence of possible toxic reactions to the sulfanilamide such as fever, skin rash, hemolytic anemia, headache and mental confusion, nausea and vomiting, abdominal pain, and acidosis, as evidenced by hyperpneic breathing. If any of these reactions appear it is desirable either to reduce the dose of the sulfanilamide or to discontinue it altogether.

## Results of Treatment

*I Mandelic Acid*—Chart I represents a summary of a group of 40 patients treated with mandelic acid. Other reports of the results of treatment with mandelic acid in the Infants' and Children's Hospitals have been given by Wheeler<sup>8</sup> and Dietrich.<sup>9</sup>

The patients in the group having anatomic abnormalities as determined by intravenous pyelography or cystoscopy and retrograde pyelography were those in whom surgical treatment was deemed inadvisable. This group included patients with unilateral and bilateral dilated kidney pelvis and ureters, chronic pyelonephritis with hypertension, and markedly diminished kidney function.

The infecting organism in 33 of the patients was the colon bacillus, mixed colon bacillus and streptococcus fecalis in 4

CHART II—SULFANILAMIDE

| GROUP    | NUMBER OF CASES | MALE | FEMALE | SUCCESS | FAILURE TO STERILIZE | RECURRENT < 2 Weeks | RECURRENT > 2 Weeks | NO FOLLOW UP | REACTIONS Cyanosis | Rash Fever |
|----------|-----------------|------|--------|---------|----------------------|---------------------|---------------------|--------------|--------------------|------------|
| Infants  |                 |      |        |         |                      |                     |                     |              |                    |            |
| I        | 11              | 1    | 10     | 11      | 0                    | 0                   | 0                   | 2            | 8                  | 0          |
| II       | 3               | 1    | 2      | 3       | 0                    | 0                   | 0                   | 1            | 3                  | 0          |
| III      | 0               | 0    | 0      | 0       | 0                    | 0                   | 0                   | 0            | 0                  | 0          |
| Children |                 |      |        |         |                      |                     |                     |              |                    |            |
| I        | 12              | 0    | 12     | 12      | 0                    | 0                   | 0                   | 1            | 10                 | 1          |
| II       | 5               | 1    | 4      | 4       | 1**                  | 0                   | 0                   | 0            | 5                  | 0          |
| III      | 10              | 1    | 9      | 10      | 0                    | 0                   | 1*                  | 0            | 8                  | 2          |
| Totals   | 41              | 4    | 37     | 40      | 1                    | 0                   | 1                   | 4            | 34                 | 3          |

Group I—Acute infection without anomalies in urinary tract.

Group II—Chronic or recurrent infection lasting over 2 months with anomalies.

Group III—Chronic or recurrent infection lasting over 2 months without anomalies.

\* Recurrence two weeks later Mandelic acid with recurrence two months later

\*\* Diverticulum of bladder Suprapubic cystotomy three days after P.A.B.S. started.

patients, and the streptococcus fecalis, atypical paratyphoid B bacillus, and the H influenza in each of 3 patients.

Thirty two of the 40 patients were successfully treated with the mandelic acid. Two of the children who were unsuccessfully treated had marked anatomic defects, one having a bifid left kidney pelvis and the other having a fused left kidney and megaloureter with a congenitally absent right kidney. The latter patient was readmitted later for sulfanilamide therapy and the urinary infection was successfully treated. An other child had chronic pyelonephritis with markedly diminished kidney function and hypertension. In 3 of the infants whose urinary infection failed to respond to mandelic acid treatment the pH of the urine could not be lowered to 5.0 even with large doses of ammonium chloride supplementing the mandelic acid.

The average time of follow up visits after discharge from the hospital of the group of infants was four months and of the children's group was three and one-half months. During this time 2 of the infants and 7 of the children had a recurrence of the urinary infections. One of the infants who had a recurrence was of the group without demonstrable anomaly of the urinary tract and one had a chronic infection prior to treatment with an associated anomaly. Three of the children whose infection recurred had no demonstrable anomaly of the urinary tract and 3 of them had a chronic infection prior to treatment with associated anatomic anomalies.

**II Sulfanilamide**—Chart II is a summary of 41 patients who were treated with sulfanilamide. Surgical treatment was considered necessary in 1 patient of this group. This patient was a female child in whom a large diverticulum of the bladder was discovered after an intravenous pyelogram. A suprapubic cystotomy was performed on the patient three days after the sulfanilamide was started. The urine did not become sterile and the patient died on the sixth postoperative day of a hemorrhage from the bladder. This case represents the only failure in sterilization of the urine of this group of patients. Only 1 patient of this group had a recurrence of the infection after the drug had been stopped. No anomaly of the urinary tract had been found after an intravenous pyelogram had been done. She was subsequently treated with mandelic acid but had another recurrence of the infection two months later.

The average time of follow-up after discharge from the hospital was three months for the infants and two and one-half months for the children.

The infecting organism was the colon bacillus in 32 patients, mixed colon bacillus and streptococcus fecalis in 4, streptococcus fecalis in 2, staphylococcus albus in 1, and the bacillus proteus in 2.

The average time in which a sterile culture of the urine was obtained after the sulfanilamide had been started was three days for infections caused by the colon bacillus and the staphylococcus albus, five days for the bacillus proteus and nine days for the streptococcus fecalis.

## Reactions to Drugs

*I Mandelic Acid*—Two of the patients treated with mandelic acid developed a mild albuminuria and casts were found in the urinary sediment. One patient complained of abdominal pain after receiving the mandelic acid. One who had an acute urinary infection superimposed on bilateral tuberculous kidneys developed gross hematuria. One child with hypertension, chronic urinary infection, and markedly diminished kidney function developed vomiting and acidosis after receiving mandelic acid and ammonium chloride.

These toxic reactions disappeared rapidly after the mandelic acid was discontinued and a liberal intake of fluid was allowed.

*II Sulfanilamide*—Thirty-four of the 41 patients treated with sulfanilamide developed cyanosis of the lips and nailbeds. This reaction was not considered to be dangerous and the treatment was not changed after its appearance. One child developed a febrile reaction after receiving sulfanilamide for four days. The child's temperature rose to 103 F each afternoon for two days and no reason for the fever could be found after carefully examining the patient. The temperature remained normal after the sulfanilamide was discontinued, therefore it was considered to have caused the fever. Two children developed a morbilliform rash over the face and trunk after receiving sulfanilamide for six days; they showed no signs of measles or German measles other than the rash, therefore it was assumed that the drug was the cause.

## Summary and Conclusions

A discussion and a suggested method of investigation for patients with infection of the urinary tract have been presented.

The dosage and the method of administration of mandelic acid and sulfanilamide have been discussed.

The comparative results of treatment with mandelic acid and sulfanilamide of a group of 81 patients suffering from acute and chronic infection of the urinary tract have been presented.

Sulfanilamide appears to be a valuable addition to the drugs available for the treatment of urinary infections.

The limitations for the use of mandelic acid are the presence of fever, vomiting, or acidosis, diminution of kidney function to the extent where concentration of the urine to 1:20 is impossible, and infection due to the bacillus proteus.

Sulfanilamide should be used with caution and should not be considered as a panacea; the possibility of severe toxic reactions such as fever, leukopenia, hemolytic anemia, and skin rashes should be kept in mind. The appearance of cyanosis of the lips and nailbeds is not considered to be a contraindication for continued administration of the drug.

Sulfanilamide may be administered in the presence of fever and to patients with diminished kidney function. However, the drug will not be excreted by the kidney as rapidly if the function is diminished. In such an event it is advisable to determine the amount of sulfanilamide in the blood at frequent intervals and reduce the dose if the concentration rises above 15 mg per cent.

An adequate dose of both mandelic acid and sulfanilamide should be given and the proper pH of the urine during administration of the drugs should be maintained.

In our experience sulfanilamide is effective in sterilizing the urine of patients infected with organisms of the colon-aerogenes group, the bacillus proteus, the staphylococcus aureus and albus, and the streptococcus fecalis, although the last named organism requires a longer period of treatment than any of the others.

## References

1. Rosenheim, M. L. *Lancet*, 1: 1032 (1935).
2. Helmholtz, H. F., and Osterberg, A. B. *J. A. M. A.*, 107: 1794 (1936).
3. Kenny, M. *Lancet*, 2: 119 (1937).
4. Mellon, R. R., and Shinn, L. E. *Proc. Soc. Exper. Biol. & Med.*, 37: 331 (1937).
5. Helmholtz, H. F. *J. A. M. A.*, 109: 1039 (1937).
6. Long, P. H. Paper delivered at the annual meeting of The Johns Hopkins Medical and Surgical Association, Baltimore, February 25, 1938.
7. Campbell, M. F., and Lyttle, J. D. *J. A. M. A.*, 92: 544 (1929).
8. Wheeler, W. E. *N. E. J. Med.*, 217: 643 (1937).
9. Dietrich, H. P. *Am. J. Dis. Child.*, 54: 649 (1937).

## Discussion

Dr. Albert D. Kaiser, Rochester, N. Y.—

Dr Carey has given us a very timely and thorough review of the modern treatment of urinary infections. Both the urologist and the pediatricist have traveled a long distance since Holt Thompson, and others described pyelitis as a cause of so many of the unexplained temperatures in infants. All pediatricians must now be certain that the mere presence of a few pus cells in the urine is not sufficient for a positive diagnosis of pyelitis. Still I am sure that we are more apt to institute alkaline or other treatment before we obtain catheterized specimens of urine. While this is not highly scientific the treatment does clear up the urine and reduce the temperature in a large number of these patients. One wonders how many of these cases really have pyelitis. Pus cells in the urine of a female infant very often come from the urethra or vagina. We may, in private practice, be excused for this easy-going method of diagnosis and treatment, but certainly no pediatrician should be excused for so conducting severe pro-

longed or recurrent cases. Urologists have too often pointed out the possibilities of anomalies and other urologic problems to justify any pediatrician in neglecting to have a complete urologic study of the case.

The use of sulfanilamide seems to me the greatest advance we have made in the treatment of these cases. One handicap in other methods of treatment has been the inability to make these small children take medication by mouth. With sulfanilamide a parenteral injection of 1 per cent of the drug in a physiologic solution of sodium chloride overcomes this problem. If it is not possible to secure this solution prontosil may be used.

I would like to ask Dr Carey regarding his experience with bacilluria where but few pus cells are present

The section has been fortunate in having this important subject brought up to date in such an excellent manner

## JUDICIAL DECISION PACKED WITH COMMON SENSE

Magistrate Sabbatino's decision in the case of chiropractor Frederick C. Zinke strips spinal manipulation of its various subterfuges and reveals it for what it is—namely the illegal practice of medicine by unlicensed unqualified practitioners, says the *New York Medical Week*. In holding Zinke for Special Sessions Judge Sabbatino summarized the entire chiropractic situation in a few terse sentences:

The practice of chiropractic is the practice of medicine. And the fact that chiropractors abstain from the use of words like diagnosis, treatment or disease is immaterial. What they hold themselves out to do and what they do is to treat disease, and the substitution of words like analysis, palpation and adjustment does not change the nature of their acts.

By his ruling on the display of chiropractic signs Magistrate Sabbatino opens the door to a wholesale clean-up of this persistent form of unlawful practice. 'These signs and certificates are in themselves presumptive evidence of a holding out (to treat disease)—the titles doctor' (of chiropractic) and chiropractor carry with them definite implications that the possessor is able to treat bodily conditions.

This portion of Magistrate Sabbatino's decision is of inestimable importance. It clearly

rules that the display of chiropractic signs violates the law prohibiting unauthorized use of a medical designation. Armed with this the law enforcement agencies of the state should find it much easier to establish their case against chiropractors.

Various sectarian healing cults charge that the medical practice laws are designed to give physicians a monopoly on medical care. Lay men who are influenced by this viewpoint may find enlightenment in a Court of Appeals decision quoted by Judge Sabbatino in the Zinke Case.

The regulation of the practice of medicine is undertaken by the state, not for the protection of the physicians themselves but for the protection and welfare of the people. 'The power of the state to provide for the general welfare of its people authorizes it to prescribe all such regulations as in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity as well as of deception and fraud. Those seeking medical attention have no means of estimating the skill and ability of the physician and must depend upon the state to permit only those qualified to engage in that profession.' Judge Sabbatino's ruling strengthens the power of the state to give the people this necessary protection.

# FRACTURES OF THE RADIUS OR ULNA—LOWER FIFTH— IN ADOLESCENCE

DONALD E. McKENNA, M.D., F.A.C.S., Brooklyn, New York

PERHAPS more physicians are more familiar with the mechanism and treatment of a Colles fracture than of any other. The aphorisms of the lecture hall and quiz room of medical colleges lend themselves to a somewhat ritualistic formula for its reduction. In time the practitioner, by imperceptible stages, is apt to consider all fractures about the wrist as some modification of a Colles, and, by correlation of thought, proceed to treat them by the well remembered formula of hyperextension, traction, and flexion, apply a short splint, and place the forearm in a sling. Such management is often harmful, particularly in childhood, and this paper has for its purpose a plea that less dogma be employed in reducing wrist fractures, to the purpose that better functional results may be attained, especially in the treatment of lesions of the radius and ulna in the lower fifth in adolescence.

The fracture of childhood which most accurately simulates a Colles is an epiphyseal separation of the distal radial epiphysis, and yet a lesion of both bones of the forearm in the lower fifth, the so-called crumpled, adolescent, or torus fracture is much more common than even epiphyseal separation. This fracture, furthermore, presents a confusing syndrome, following a fall on the extended arm, of pain, swelling, and a deformity near the wrist—a clinical picture not unlike the other two lesions, and while its management and treatment should be quite different, often enough is not.

Just what is a Colles fracture? One textbook (Böhler) says "it is a fracture of the lower end of the radius, the lower fragment angulated backward, and the ulnar styloid broken off." Colles said it was a transverse fracture of the radius situated about 4 cm. above the articular

margin, resulting from a fall on the outstretched hand. Other authorities, Wilson and Cochrane, have proposed to limit it to "fractures of the radius as described by Colles, in which the entire thickness of the bone is involved—either transverse, fissured, or comminuted in type." With this the author is in accord.

When an adult falls on the outstretched arm with the wrist in hyperextension the palm slaps against the pavement, floor, or other obstruction, and the stress is transmitted to a rigid radius, which usually fractures where Colles said it would. If it doesn't, the force travels upward, resulting in a fracture of the shaft, or radial head, with or without a fracture of the diaphysis of the ulna, usually on a slightly lower level.

In children and adolescents the mechanism is different. Their wrists are more flexible and are capable of greater hyperextension, as they fall they strike on the butt, rather than the palm of the hand. There would seem to be a recoil of the force by virtue of the elasticity at the epiphyseal line. The cancellous bone in the diaphysis also modifies the transmission of the force. The pronator quadratus is tense, the cortex of the radius is comparatively thin, and the fibers of the interosseous ligament are more nearly transverse. The force snaps the radius in the lower fifth, travels across the interosseous ligament, and is dispersed when the ulna gives way.

The ulna occupies a place of secondary importance when discussing fractures about the wrist joint, and rightly so. It does not articulate with the carpal bones, it is not intimately concerned with wrist function, it obtains stability near the wrist by articulation with the radius, but is bound throughout its shaft to the radial diaphysis merely by the

interosseous ligament, it is not primarily concerned in the transmission of force, and not subject to fracture by such force (i.e., transmitted) unless preceded by a fracture of the radius.

One other anatomic factor deserves mention in falling, the attitude of sub-conscious protection of the hand is ulnar deviation. This attitude puts two muscles under excessive tension—the brachioradialis, which is attached to the radial styloid, and the pronator quadratus, running transversely between both bones



FIG 1 Epiphyseal separation. Backward displacement of epiphysis. Typical silver fork deformity.

in the lower fifth. The pronator quadratus seems to determine the level of the fracture site, namely, at a point just above its proximal margin, while the brachioradialis, whose tendon of insertion is attached to the radial styloid, contributes largely to backward displacement of the lower fragment.

The first collected observations of this fracture were reported by Thore in 1844. It is the most common bone injury of childhood. In our series on the Fracture Service at the Methodist Episcopal Hospital, Brooklyn, we have observed



FIG 2 Typical fracture of lower fifth in adolescence  $1\frac{1}{2}$  inches above the distal end. Both bones involved at same level. Dorsal displacement of distal radial fragment.

210 cases during the past five years. Textbooks in general mention the lesion in a superficial way, and dispense with it by a few cursory remarks. It is, however, a clinical entity, entitled to specific consideration, differing from other fractures about the wrist, and, if treated incorrectly, may produce lasting deformity and dysfunction.

There are all gradations of severity, from the mild, so-called crumpled, torus, or greenstick variety, to the grossly displaced type. What has been said about the mechanism applies to all varieties. Violence of the force, timing of the impact, and constitutional variability determine the degree of displacement. The fracture occurs at a distinctly higher level on the shaft than a Colles'. The ulna is usually implicated, and invariably one obtains the history of a fall on the outstretched arm.

The examination is most important. It pays to take a few minutes to gain the patient's confidence—they are frightened youngsters. Seat them on a stool and allow them to rest both forearms on the examining table. Observe the butt of the hand. Note whether it is red, swollen or ecchymotic. This not only gives a clue to diagnosis but is a reliable index of the

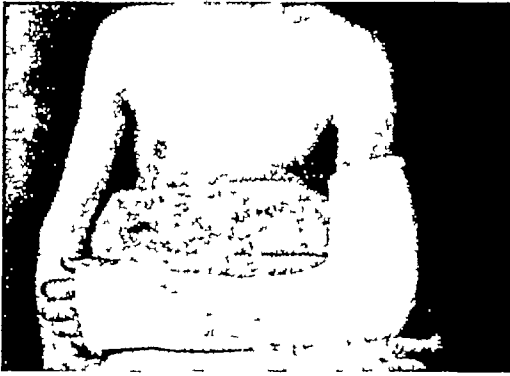


FIG 3 Immobilization from midarm to fingers Forearm pronated Wrist slightly flexed

violence of the force Then note the relative size of the forearms at or near the wrist and record the point of maximum swelling, also the presence or absence of deformity and whether this is greater on the dorsum or palmar surface Further note whether the hand is held in radial or ulnar deviation, in relation to the wrist Gentle palpation will indicate the point of maximum tenderness It is usually on the dorsum, and will correspond quite accurately to the level of the fracture site—usually two inches above the wrist Inspect the relative relations of the radial and ulnar styloids, if the relationship is varied by the radial styloid being on a higher level than it should be, an additional clue to diagnosis is obtained Do not try to elicit crepitus or abnormal mobility Abstain from any attempt to institute immediate traction for correction of the deformity Be content with concluding the examination with a diagnosis Gently apply a temporary splint to the entire forearm and hand, place the parts in a sling if possible, and obtain an x-ray

Treatment should be instituted as soon after the x-ray films have been examined as expediency permits The earlier these fractures are reduced and immobilized, the easier the task, and the better the position If the fracture be of the commonest variety, the so-called crumpled, trousers, or greenstick type, one needs but

to properly apply splints without anesthesia It is best to use pliable material such as molded plaster, not only the wrist, but the elbow as well, should be immobilized, with the forearm in pronation The splints may be removed after the tenth day, for gentle massage of the parts, but not discarded until the third or fourth week, when there is clinical or x-ray evidence of firm union

Angulation at the fracture site injects an added responsibility, calling for more precise measures than mere immobilization The angulation should be slightly overcorrected to insure avoidance of accentuation of the deformity during the remaining years of bone growth A slight residual defect may cause a considerable defect in function of the forearm or wrist at maturity Lesser degrees of angulation are possible to overcome by leverage at the site of deformity, applied by the hands through the cast or splint while the plaster is setting When a gross degree of angulation is detected, it is more provident to use an anesthetic, manipulate the parts, restore normal surface contour, and recheck the position by x-ray Leverage is preferable to traction in accomplishing such correction, as the latter (i e, traction) may disengage the fragments and gross displacement result

It is this degree of the injury which gives the most concern When force has been sufficient, a jagged fracture line results—the radial fragments are displaced, the distal one as a rule posteriorly, while the entire wrist and hand are in lateral, or radial, deviation The complete disruption of the continuity of both bones produces a deformity somewhat like that observed in a Colles fracture The flexor muscles contract, producing an added factor, that of overriding Swelling of the soft parts is rapid and extreme, becoming brawny in but a few hours The fingers may become blanched and cold, due to impaired circulation Pain is acute It is obvious that such a problem is in need of prompt attention, best given in a hospital The

premanipulative anteroposterior x-rays are often misleading. The lateral film, however, divulges the gross displacement of the distal radial fragment.

It is a great mistake to manipulate this fracture without first obtaining complete muscular relaxation by satisfactory anesthesia. Without such relaxation the already damaged soft tissues are rensulted, increased muscle tension defeats all efforts, and the attempt fails, leaving the patient's wrist in a worse plight than it was originally. Unless one is particularly proficient in the use of local anesthesia, a general anesthesia is much more desirable, and, while not absolutely essential, fluoroscopic control is greatly to be desired, for without it there is no assurance of retention of the fragments in a satisfactory position during immobilization.

The most frequent mistake made in manipulating this fracture is to attempt to reduce it as one would a Colles. A certain few of them can be reduced by extreme hyperextension, followed by traction, leverage of the lower fragment by digital pressure, and flexion of the wrist, but the greater number fail to respond. The mechanism is faulty in that the wrist flexors are in an extreme state of contraction, and the added tension, which dorsiflexion of the wrist produces in them, only accentuates the displacement of the lower fragment.

Manipulation should be preceded by flexion of the elbow to 90 degrees, then with countertraction on the arm, grasp the hand and make steady traction on the forearm until the muscles relax, which is a matter of minutes, not seconds. The forearm should then be completely pronated, i.e., palm downward. Traction is then increased, and the wrist extended 10 to 20 degrees, but not hyperextended. Digital pressure of the thumb on the lower radial fragment aids in levering the lower fragment past the obstructing ledge of the upper. The wrist is then flexed about 15 degrees, and if closed reduction is to be accomplished, there will often be a sense of reposition of the frag-

ment, and a restoration of normal contour of the dorsal surface of the wrist.

It is at this point in the reduction that fluoroscopic control is of inestimable value. The fractured fragments are composed of such spongy bone that they frequently do not convey a convincing sense of crepitation on reposition. Swelling of the soft parts is usually so great, and of such a brawny character, as to make the bony landmarks elusive. Fluoroscopy in the lateral plane will immediately confirm, or deny, the reduction of the posterior displacement, and also indicate whether the degree of palmar flexion necessary to maintain apposition has been rightly estimated. There must be no angulation of the radial fragments in either plane, or else restriction of forearm and wrist function will supervene.

The position of the wrist is the important factor in maintaining reduction. The most satisfactory results have been obtained by immobilizing it in slight palmar flexion—10 to 15 degrees. Under no circumstances should one place it in full flexion and ulnar deviation (Cotton Loder position). This will cause lateral angulation of the fragments, ultimately limiting supination of the forearm. Extreme flexion and radial deviation will permit the fragments to redislocate, while any degree of dorsiflexion will produce anterior angulation, resulting in limited wrist flexion and weak hand grasp.

Immobilization is best accomplished by means of two molded plaster splints, lightly padded with glazed cotton, applied from the mid arm to the knuckles, with the elbow in 90 degrees flexion, the forearm completely pronated, and the wrist slightly flexed. The splints, one anterior, and the other posterior, are snugly bound together by a flannel bandage, and lightly reinforced by one or two layers of plaster bandage. The position of the fragments is again checked by fluoroscopy, to determine whether the position has been maintained during the application of the splints. If the position is lost, obviously the dressing is discarded and the procedure repeated.





FIG 4 Unusual anterior displacement of distal radial fragment. Open reduction. Wire suture.

As soon as convenient, premising satisfactory reduction, anteroposterior and lateral x-ray films should record the position, and as the swelling subsides the splints are to be tightened by reinforcement with adhesive, or firm bandage. It is not uncommon for the fragments to slip during the first four to seven days. Hence our present preference of splints to a circular plaster cast which does not lend itself to adjustment. The parts should be x-rayed again at the end of five to seven days. If it is impossible to reduce the fracture by manipulation on the first attempt, or if redislocation of the distal fragments occurs early during convalescence, there are no advantages in subjecting the patient to repeated manipulations. One should unequivocally advise and perform an open reduction.

The approach to open reduction is through a 3-inch incision on the dorsal surface of the wrist, to the radial side of the midline, the midpoint of the incision being over the site of maximum deformity. No important anatomic structures are encountered. The extensor tendons are easily visualized, and the incision carried to a greater depth by retracting them. Some fibers of the annular ligament are cut, and the knife

blade sunk through the remaining soft tissues to the bone, exposing the fracture site. The wound must be sufficiently liberal to insure good lateral traction of the soft parts without too much tension. The radial fragments should be levered loose, using a periosteal elevator, supplemented by the traction of an assistant on the wrist. Sometimes considerable force is required to disengage the fragments, even in a recent fracture. The pronator quadratus muscle seems to cause this phenomenon, although the contracted flexor tendons are also a factor.

When the distal fragment has been disengaged and sufficiently exposed, select an area as distal from the fracture margin as possible, and with a small drill place a hole obliquely through the cortex, emerging at the fracture margin. It is not necessary to drill through the entire thickness of the shaft, possible damage to the soft tissues on the flexor surface is thereby avoided. Through the drill hole a No. 2 chromic suture is threaded, left long, and clamped. The proximal end of the radius is then levered dorsally, and a similar drill hole placed obliquely through its cortex. Through this latter drill hole a flexible wire snare is passed. The free end of the chromic suture is fastened in the loop, and the loop withdrawn, completing the placement of the retention suture through both radial fragments. With countertraction on the arm, flexion of the elbow, and traction on the wrist, with the forearm pronated, reduction is accomplished, usually with the aid of a periosteal elevator used as a skid to lever the fragments into accurate apposition. The slack in the chromic suture is taken up, the fracture site gently impacted by a few taps on the butt of the hand, and the suture is tied. The soft tissues are closed by an assistant, while the operator carefully maintains the position. Immobilization is identical with that described for the closed reduction. We have had no instance in which the ulnar fragments needed to be exposed, the key to reduction being re-

position of the radial elements. This applies to the closed reduction as well.

Routine aftercare in the closed cases is as follows. The posterior or dorsal splint is removed at the end of the second week and gentle massage instituted, with equally gentle passive movement of the wrist. The sling and palmar or anterior splint are retained for another week or ten days, when a short molded plaster splint is reapplied from the elbow to the palm, with the wrist in moderate dorsiflexion. After the third week massage is more vigorous, hand grasp is encouraged, the sling gradually discarded, and finally, when there is definite x ray evidence of callus at the fracture site, usually between the fifth and sixth weeks, the short splint is dispensed with. Such physical therapy as follows is a matter of choice. Following open reduction, the plan is identical, but slightly longer. Gentle massage is not started until the fourth week and splints are retained from six to eight weeks.

The complications that arise in the aftercare of this type of fracture are malposition, delayed union, or nonunion. They can all be avoided by accurate and early reduction, plus adequate immobilization. This fracture will always unite if the radial fragments are in end to end apposition.

Malposition can only be avoided by rather frequent checkup x rays. The first one should be obtained five days after reduction, and not later than the seventh day. Any degree of angulation must be immediately corrected, resubjecting the patient to anesthesia for its accomplishment if necessary, although it is usually possible to restore alignment by simply changing the splint, and remolding the parts while the plaster sets.

Delayed union is not infrequent. It is usually provoked by failure to keep the elbow immobilized long enough, or permitting too early active motion of the wrist. It is more apt to occur after open reduction. Prolonged immobilization will suffice, providing of course, that good alignment and apposition have been maintained.

For nonunion, which we have only encountered on two occasions—both following open reduction—reoperation is necessary. Removal of the fibrous plug, freshening of the bone ends, and a repetition of the technic used in the recent cases, have sufficed to promote union.

A very infrequent complication is radial nerve paresis, due to contusion from close proximity of one of the fracture fragments to the nerve on the flexor surface of the wrist. In one instance this was produced during open reduction. The symptoms, however, have been transitory and limited to a slight disturbance of sensation over the dorsal surface of the thumb and index finger, with slight motor weakness of thumb adduction for a few weeks.

Too much emphasis cannot be placed upon the importance of keeping this type of fracture immobilized for a much longer period than one would the average fracture about the wrist, such as a Colles. Complication, deformity, and disability are often the result of too much enthusiasm for early active motion, and rapid restoration of wrist function.

### Conclusions

- 1 The most frequent site of fracture of both bones of the forearm in childhood and adolescence is in the lower fifth

- 2 The distal radial fragment is usually displaced posteriorly, producing a deformity not unlike a Colles fracture.

- 3 The treatment of this lesion differs radically from that of a Colles fracture.

- 4 It is a great error to attempt reduction without providing for complete muscular relaxation. A general anesthetic is best.

- 5 For failure to obtain satisfactory reduction after one manipulative trial, open reduction is indicated.

- 6 A minor degree of malposition produces considerable disability of forearm and wrist function.

- 7 Union occurs rather slowly. Immobilization for six weeks or longer is frequently necessary.

## Bibliography

- Bagley, Cecil H. *Surg Gynec. & Obst.*, 42 95 (1926)  
 Böhler, L. *The Treatment of Fractures*, 4th English Edition, Wm Wood & Co (1935), p 222  
 Burnham, A. C. *Ann Surg*, 64 318 (1916)  
 Carter, R. M. *Surg Gynec. & Obst.*, 41 287 (Sept.), 1925  
 Colles, A. *Edin. Med. and Surg. J.*, 10 182 (1814)  
 Eliason, E. L. *Fractures of the Humerus, Radius and Ulna*, D Appleton & Co, N Y (1926), p 228  
 Eliason, E. L., *et al*. *Am J Surg*, 38 511 (1937)  
 Ghormley, R. K., and Mroz, R. J. *Surg Gynec. & Obst.*, 55 377 (1932)  
 Gillies, C. L. *J A M A* 101 1374 (1933)  
 Grossman, J. *Medical Times*, 55 109-112 (May), 1927  
 Levinthal, D. H. *Surg Gynec. & Obst.*, 57 700 (1933)  
 Skillman, P. G. *Ann Surg*, 61 209 (1915)  
 Speed, K. *Fractures and Dislocations*, 3rd Edition, Lea & Febiger (1935), p 466  
 Wilson, P. D. and Cochrane, W. G. *Fractures and Dislocations*, J B Lippincott Co, Philadelphia (1925), p 250

## HITLER SANCTIONS "INTUITIVE" HEALING PRACTITIONERS

A law published under Chancellor Adolf Hitler's signature in the *Official Gazette*, February 20, gave recognition to "healing practitioners"—healers who are without regular medical training and therefore without a license to practice.

To persons possessing an "intuitive ability" to cure the sick it gives the right to practice under the title of "heilpraktiker"—healing

practitioner—provided the practitioner is more than 25 years old and can show three years of successful work in healing.

The purpose of the law was said to be the eradication of quackery, especially in rural districts. It also helps make up for a shortage of qualified physicians resulting from elimination of Jewish doctors.

## SCIENCE AND TRUTH WILL PREVAIL

"The illegitimate, unethical and peculiar forces which have been arrayed against the advancement of scientific medicine for a quarter of a century seem suddenly to have felt a new stimulus," the *J A M A* for February 4 says in an editorial.

"Like a snarling, vagrant, yapping pack at the heels of some great mastiff they cry today to the public the wails of their envy and their discontent. This they believe is their long awaited opportunity to destroy the American Medical Association. Almost since the day when the propaganda leading to the indictment of the association began to appear, the radio, the mails and the commercialized press have occasionally carried this material. Now comes an editorial by Bernarr Macfadden, publisher of *Liberty*, in the current issue of that publication. Says Mr Macfadden, 'doctors—whether they be allopaths, homeopaths or any other kind of "paths"—after having spent from six to ten years studying their profession, should be guaranteed a decent living by the government. Capable doctors of all kinds should be paid by the government.' Indeed, he proposes a competition between all sorts of peculiar healers with regular physicians, each having certain sections of the community assigned to them, the mortality and health records of such communities being compared year by year and prizes being offered

to the quacks who develop the best records. Moreover, Mr Macfadden feels that many of the measures for the care of disease which he has promoted in the past have not had a suitable trial. He wants to cure syphilis by fasting followed by an exclusive milk diet. He wants to cure gonorrhea with water treatments. He wants to replace drugs with artificial fever, and he thinks an exclusive grape diet will cure cancer.

"Perhaps some of the forces within the practice of medicine who have been doing their utmost to disrupt medical organization in recent years will welcome this new ally to their cause.

"As the campfires are lighted appear the tents of the makers of innumerable nostrums and panaceas, of cosmetics promoted with false and fraudulent claims, of strange glandular mixtures and vitamin capsules—all united to batter at the walls of the city in which honest medicine has been reared and nurtured. Now the American people can observe the nature of those who are endeavoring to disrupt, destroy and ruin the standards of scientific medicine. Under a free American government our profession has reached a peak never before reached in any other country—a peak which scientific medicine proudly inhabits and which it will defend to its utmost. In the end, science and truth and honesty and ethics must prevail."

# SHORT WAVE MEDICAL DIATHERMY

## Clinical Applications

JOHN S. COULTER, M D, D T M, and STAFFORD L OSBORNE, B P E, M S,  
Evanston, Illinois

(Associate Professor and Associate Respectively Department of Physical Therapy Northwestern  
University Medical School)

INVESTIGATION of the physiologic effects and clinical applications of short wave diathermy was started in our laboratory and clinic in 1934. As a result of these investigations the therapeutic possibilities as well as the therapeutic limitations have become better understood. The clinical applications are based on the knowledge of the physiologic effects.

The detailed discussions of these physiologic effects have been published in previous articles.<sup>1,2,3,4,5,6,7</sup> Briefly, they show that the claims of a specific biologic effect independent of the heat generated by the current, a specific bactericidal effect, or a special selective thermal action were not substantiated. Two hundred and ninety temperature observations on the human thigh have been made with short wave diathermy currents with wave lengths varying from 25 to 6 meters.

To ascertain whether heat could be produced in bone marrow of living animals by short wave diathermy treatments to the animal's leg and, if the bone was heated, whether the temperature of the contiguous muscle is higher or lower than that of bone, we inserted thermocouples in the femur of large dogs through cannulas. Thermocouples were placed in the muscle in the same manner. Temperature readings were taken before the leg of the dog was heated, and the thermocouple removed to avoid any spurious readings that might occur due to the presence of the high frequency current. Short wave diathermy was applied to the dog's leg for twenty minutes on the side opposite to the cannulas, and temperature measurements were repeated at the end of this time. There were 20 different animals used.

|                                 | BONE<br>FINAL<br>AVERAGE<br>TEMP | MUSCLE<br>FINAL<br>AVERAGE<br>TEMP |
|---------------------------------|----------------------------------|------------------------------------|
| 6 Meter electric field          | 104.7                            | 106.2                              |
| 1. Meter electromagnetic field  | 106.0                            | 108.0                              |
| .74 Meter electromagnetic field | 107.4                            | 111.4                              |

These results showed that the thermal gradient is always from the periphery to the interior, that wave length plays no specific role, and that the electromagnetic induction method is the most effective.

In our most recent experiments on the heating of the human thigh with short wave diathermy we used a machine of 6 meter wave length, using both the electric field and the electromagnetic induction. The electromagnetic field was applied by means of a conducting cable, three full turns applied around the thigh. The double cuff technic for the electric field was applied by means of a similar but shorter cable applied 1½ turns around the thigh, and a similar short length of cable with 1½ turns around the thigh approximately 5 inches below the other. Both cuffs were equidistant from the cannula. Eighteen observations were made on 4 subjects.

The average final temperature for the electromagnetic field was 107.9 F and for the electric field it was 106.9 F. In this experiment the only variable was the technic, and it again shows the superiority of the electromagnetic field.

From the human and animal temperature observations and five years' clinical work in a free dispensary service, in office practice, and in three hospital physical therapy departments we believe that the electromagnetic field is the most effective and most convenient method of applying

Read by invitation at the Annual Meeting of the Medical Society of the State of New York  
New York City May 11 1938

short wave diathermy With the electric field the double cuff technic and the air spaced electrodes, when properly applied on the same surface and in the same plane of the part to be treated, are effective for deep tissue heating

In our clinical work we have found short wave diathermy to be the most effective method of applying deep heat. It can produce burns but this danger is much less than with contact metal electrode diathermy

Kovacs<sup>8</sup> calls attention to the fact that the regulation of dosage with short wave diathermy is an even more empirical procedure than with ordinary diathermy The milliamperemeter is connected to the oscillatory circuits of the apparatus and serves chiefly as an indicator that electrical energy is passing It will also indicate that in a certain position of the controls, when the patient's circuit is tuned to the main oscillator circuit, there is a maximum flow of energy in the treatment field, but it does not indicate that the energy is passing through the patient

Short wave diathermy is given according to the patient's skin tolerance for heat, in much the same manner as infrared radiation This limit of tolerance is a variable factor, and Bierman in his investigation of infrared radiation called attention to the fact that this variable factor is influenced by the general state of the patient's health, his body temperature, his psychic reactions, and the condition of the environment, such as the temperature of the air in the treatment room, the rate of air flow, and the degree of humidity

Our clinical work showed that the local applications of short wave medical diathermy are contraindicated (1) in acute inflammatory processes, such as acute nondraining cellulitis, acute infectious arthritis, and acute pelvic infection, (2) in any condition in which there is a tendency to hemorrhage, such as a gastric ulcer, (3) over areas in which the appreciation of heat has been impaired or lost, as in certain peripheral nerve injuries, (4) through the abdomen, pelvis, or lower part of the back

during pregnancy, during menstruation, (5) over areas where there is a suspected malignant growth, and (6) in diseases or injuries in which simpler methods of applying external heat give satisfactory results

Short wave diathermy is distinctly valuable in the treatment of a fairly large number of pathologic conditions It offers promise of further usefulness as more accurate methods of administration are developed In this short discussion it will be impossible to consider in detail the cases in which short wave diathermy is useful, so we will confine ourselves to those in which we use it most.

In muscle strain, sprain, and dislocations, fixation by a removable plaster splint and daily application of heat and massage are to be preferred to strapping with adhesive plaster which does not permit recourse to physical therapy The removal of the splint and bandage is followed by the application of external heat from an electric lamp baker for twenty minutes followed by massage. This should be repeated at least once daily Besides the external heat, short wave medical diathermy, with the electromagnetic induction cable wound around the joint or placed over it as a coil, has proved especially effective in our clinic for the local increase of circulation and thus the reduction of pain and swelling Diathermy should not be applied where there is a danger of hemorrhage from torn vessels It should be applied at half strength for ten minutes for the first treatment to ascertain if the hemorrhage or edema increases

*Acute Subacromial Bursitis*—A first attack of an acute subacromial bursitis can usually be relieved by physical therapy in about two weeks A soft triangular pad is placed in the axilla and the arm is fixed to the side by bandages Infrared from a lamp bulb or baker is given for thirty minutes at least twice daily with the arm in abduction if possible. Short wave diathermy is applied for twenty minutes once daily As the pain diminishes, careful massage and active and relaxed motion should be given

In a few cases these measures will not relieve the pain, and the diathermy may aggravate it. In these it may be necessary to put the patient to bed with adhesive traction on the arm above the elbow and to apply continuous moist heat.

**Chronic Subacromial Bursitis**—Many surgeons advise the removal of the bursa and its calcified deposit before conservative measures are begun. Campbell<sup>9</sup> believes that if this dictum is followed many cases will be operated upon unnecessarily, for in many cases these opaque plaques have been observed to be spontaneously absorbed, and in other cases the function of the shoulder has been restored without operation. Campbell states that, on the other hand, after conservative measures have been given a thorough trial, without improvement, and the deposit as shown by x ray is still present, the removal of this foreign body by operation is indicated.

In some cases with severe pain the shoulder should be immobilized, possibly in an aeroplane splint. Infrared radiation should be applied several times daily for thirty minutes and short wave diathermy at least once daily for twenty minutes. Massage and exercise are added later. In other cases without the severe pain it is not necessary to immobilize the arm, but the patient is instructed to apply the radiant heat by means of a baker with his arm in abduction.

**Traumatic tenosynovitis** may be the result of a single strain or contusion but is usually due to the repeated performance of an unfamiliar motion or continuous pressure or strain. The tendons most commonly affected are those of the wrist, Achilles tendon, and the long head of the biceps. The treatment is to immobilize the joints whose motion causes pain in the tendons. The splint is removed to apply short wave diathermy twenty minutes once daily, followed by radiant heat, in the physical therapy department and radiant heat at home once or twice daily for thirty minute periods. It may be advisable to use heat and underwater

exercise in a whirlpool bath to prevent adhesions. Rheumatic or gouty tenosynovitis is treated similarly to the traumatic form.

In *acute myositis* or *myalgia* it has been found that hot fomentation compresses or continuous warm moist heat is more effective than diathermy. In chronic myositis, Albee's myofascitis and fibrositis, diathermy is an adjunct to massage and manipulation.

Our experiments using short wave diathermy on animals show that an appreciable rise of temperature is secured in the bone marrow, although the muscle temperatures are higher. It was suggested years ago that diathermy be used in delayed union, but few reports have appeared in the literature to support this suggestion. Medical diathermy may be used in fracture cases for its deep heat effect, but generally it is difficult to apply at a time early enough to influence the healing process.

The action of diathermy in stimulating consolidation of a fracture must be regarded as distinctly *sub judice* until additional evidence has been obtained, according to Wilson.<sup>10</sup> He also states

In the meantime, if the effect of diathermy is to be tried in cases of delayed union, it will be advisable to limit its use to those fractures where no mechanical causes exist to account for the retarded healing, such as interposition of tissue between the fragments or lack of proper reduction, and also to use it not later than three or four months after the injury. Beyond this period the local situation in respect to callus formation has become so static that it is impossible to see how heat or hyperemia would be of any assistance."

The local application of heat in *chronic arthritis* is used to help increase the circulation in areas where it is diminished. Therefore, we believe that the use of physical therapy once daily is not sufficient. It seems definitely indicated that these agents should be applied at frequent intervals during the day. In our clinics the patient, the nurse, or some

member of the family is instructed in the use of the local application of heat in the hospital room or the home. For this purpose we have a mimeographed sheet of directions. The agent to be used is marked on this sheet and directions given as to the number of times it is to be used daily.

When medical diathermy is used in chronic arthritis, it should be used for a short period and of low intensity for the first few doses, for at times medical diathermy in arthritis causes an aggravation of the local symptoms. This usually happens in cases with active foci of infection. It has so often been observed to be of benefit from a clinical viewpoint that we always give it a trial. We use short wave medical diathermy in the form of electromagnetic induction daily or every other day for twenty-minute periods at an intensity determined by the patient's tolerance. The first doses are always half time and half intensity, and some form of heat is applied at home two to four times a day.

The experimental work on the use of diathermy in *pneumonia* still rests on the work of Binger and Christie.<sup>11</sup> Stewart,<sup>12</sup> who has used diathermy in the treatment of pneumonia for fifteen years, believes that there has been a great deal of misconception and misinterpretation of the findings of Binger and Christie. He discusses their results in this article but most of Stewart's objections to the findings were answered by Binger.<sup>13</sup> Stewart states that the mortality is reduced at an average of about 70 per cent.

In the last fifteen years numerous articles have been published on the use of diathermy in pneumonia. The results have been judged on the statistical method, but usually without a full analysis of all the factors. Karsner and Goldblatt<sup>14</sup> in their article on the "Evaluation of Methods Used in Physical Therapy" state that since the statistical method does permit of opinion on the part of the observers, the number of observations must be multiplied so as to decrease this particular factor of error.

Further, they state that this error can be practically eliminated by objective evaluation of the effects without knowledge of the type of treatment used. Thus, one experimenter gives the treatment and another makes observations on the patients, without knowledge as to which have and which have not been treated. This method does not seem to have been followed in any of the reports on the use of diathermy in pneumonia. Further, the cases treated and the controls were not analyzed for the many factors that enter into the pneumonia picture, such as age, amount of lung involved, heart condition, etc.

At the Illinois Central Hospital in Chicago we have used for some years both conventional and short wave diathermy on early cases of pneumonia. From our study of the temperature, pulse, and respiration charts and leukocyte counts, there was no evidence of a specific response to medical diathermy. We have observed that in the management of pneumonia, medical diathermy does seem to be of definite benefit in reducing the severity of the thoracic pain.<sup>15</sup>

This symptomatic relief is often important. The main factors concerned in the production of anoxemia are the passage of blood through the unaerated portion of the lung and shallow breathing. The shallow breathing may be due to pleuritic pain restricting the respiratory excursions. The relief of this pain by diathermy increases the respiratory excursions and this may be the explanation for the decrease in cyanosis that is usually noted.

It is believed that diathermy is not a specific cure for pneumonia, that we have not accumulated sufficient critical evidence that it lowers the mortality, that while there is a suggestion of its value, we have no evidence to prove its effect upon the course of the pneumonia. It is a helpful adjunct in treatment of pneumonia because it is the best method for the application of deep heat which is of definite benefit in reducing the severity of thoracic pain.

In our clinic we use a short wave diathermy machine that has been accepted by the Council on Physical Therapy as giving efficient heat by electromagnetic induction. The coil or a disc electrode containing the cable coiled is applied to the chest wall over the pneumonia area. At Illinois Central Hospital we give at least two treatments a day over the involved area.

In all kinds of chronic inflammations of the eye heat is helpful in relieving pain and seems to aid the natural processes of resistance to infection and the absorption of inflammatory products. Heat may be applied by hot moist dressing, infrared radiation, or medical diathermy. Medical diathermy is used for the same purpose as any other form of heat. It has the advantage of deeper heat penetration but the indications for its use in preference to other forms of heat are by no means well established.

It has been shown by experimental work by Moncrief, Coulter, and Holmquest<sup>14</sup> that the rise of temperature produced in the eye was greatest with diathermy, next with infrared radiation, and least by a heating pad. Puntenney and Osborne have been investigating the temperature of the orbit, vitreous chamber, and conjunctiva of dogs while using short wave diathermy. While this investigation has not been completed, so far their findings substantiate those of Moncrief, Coulter, and Holmquest.

In acute suppurative otitis media Hollender<sup>17</sup> calls attention to the fact that the effects of heat applications should not be overrated. Radiation cannot replace surgical intervention but he believes it will prove gratifying as an adjuvant before and after operation.

In the treatment of chronic otitis media medical diathermy has been widely advocated. Beck and Guttman<sup>18</sup> give their views on the use of long wave or conventional diathermy. It is believed that there is at present no evidence on the use of short wave diathermy to change these opinions. When treating otitis media, they state, "the use of

diathermy is contraindicated before the rupture of the drum and after incision it is of little benefit." For acute mastoiditis, "medical diathermy is mentioned only to be condemned in such conditions." For chronic otorrhea, they state, "as a rule we have seen little or no benefit follow the use of medical diathermy in spite of the enormous amount of literature dealing with the use of these agents in this condition." In the management of deafness, their opinion is that medical diathermy has caused little if any benefit in deafness due to chronic adhesive otitis media, otosclerosis, or labyrinthine deafness. They state that in tinnitus aurium, diathermy has been repeatedly advocated, but that in their hands it has been attended with little success.

In acute sinusitis, infrared radiation is a valuable adjunct to other treatment. Short wave diathermy by the electromagnetic induction method is the most efficient method of administering heat, it is easier to apply than conventional diathermy, and it is much less likely to produce burns. For these reasons short wave diathermy has a value as an aid in the treatment of acute sinusitis after adequate drainage of the sinus has been established.

In chronic sinusitis, short infrared radiation from a 250-watt incandescent bulb or short wave diathermy has a limited value as an aid in the relief of pain. Hollender<sup>17</sup> calls attention to the fact that the frontal and maxillary sinuses are the ones most suitably located for diathermic treatment.

In a series of experiments to determine the heating value of various physical methods applied to sinuses, Andreen and Osborne,<sup>19</sup> at our department at Northwestern University Medical School, introduced a thermocouple into the natural opening of the antrum and applied conventional diathermy, short wave diathermy by electric field (16 meter) and electromagnetic induction, infrared radiation from a thermo-spectral water-cooled lamp, the Compsoite, and the Elliott



treatment. The temperature rises were insignificant in any of these methods, ranging from 0.4 to 0.9 F. Rosenwasser and Bierman,<sup>20</sup> in applying short wave diathermy to the paranasal sinuses, found the elevation of temperature after treatment in the antrum varied from 0.6 to 4 F, and in the sphenoid sinuses of patients who had undergone sphenoidectomy, varied from 0.6 to 4.5 F. Shambaugh<sup>21</sup> recently gave an analysis of the pathology of chronic sinusitis that prevents spontaneous recovery. With a picture of the pathology of chronic sinusitis before us it is impossible to see the value of the most efficient methods of applying heat as a curative agent—in these conditions if they give only such a small rise of temperature in the antrum. This means that their effect is limited to a circulatory increase in one wall of the sinus.

In *urologic disorders* short wave diathermy has been recommended for many conditions, but in our clinics the only cases that are referred for treatment are prostatic disorders.

Local heat in some form or other is commonly employed in the amelioration of prostatic symptoms. There is a free anastomosis between the superior hemorrhoidal artery (the terminal inferior mesenteric), the middle hemorrhoidal (a branch of the hypogastric), and the inferior hemorrhoidal (a branch of the internal pudendal). Therefore the local application of heat rectally should increase the blood flow to the prostate and seminal vesicles.

There are many methods of applying heat to the prostate gland, such as hot sitz baths, hot rectal irrigations, hot water instillations, electrical prostatic heaters, the Elliott treatment, and short wave diathermy.

In our clinics we use the Elliott treatment or short wave diathermy. Where these are not available or for home use, the hot sitz baths are used once or twice daily.

In giving short wave diathermy we use the electromagnetic induction method.

Four to six layers of Turkish toweling are placed on a wooden chair. The cable from any accepted machine giving the electromagnetic field is formed in a pancake coil of three turns and placed on the padding. A pillow is placed over the coil. This pillow should be of sufficient thickness that with the patient seated it provides a pad one inch thick between the patient and the coil. The inner surface of the thighs should be protected by a towel between them.

It is believed that the beneficial effects in the application of heat in these conditions is secondary to the local tissue response which follows any local form of hyperthermia with its resultant increase in blood flow, increased oxygen tension and cellular response, mechanisms of which we are beginning to learn from the physiologists.

Schmidt, Beazell, and Ivy<sup>22</sup> measured the total venous blood flow from various levels of the gastrointestinal tract over a two and one-half hour period following the use of the Elliott treatment and short wave diathermy. They made quantitative measurements and ascertained that heat applied during the second and third thirty-minute intervals increased the blood flow from two to four times, under optimum conditions. When short wave diathermy was used, the blood flow was not increased until the temperature of the tissues had been raised to 102 F while the maximum effects were obtained at a temperature of 106.7 F.

Short wave diathermy may be used in *salpingitis* as a method of applying heat. In our clinic a study was undertaken to ascertain to what degree short wave diathermy could heat the female pelvic organs.<sup>23</sup> The electromagnetic field produced the highest temperature in the vagina, ranging from 100.9 to 104.4 F, and gave the most comfortable treatment to the patient. With similar conditions other authors quoted by Horowitz *et al* secured the same results. Horowitz and his co-workers also used a metal vaginal electrode with short wave diathermy, with a dispersive pad

electrode placed some distance from the patient's lower back. With this technic they secured rectal temperatures averaging 108.2 F. The method of using metal official electrodes with short wave diathermy has one disadvantage in our opinion. In normal conditions, the vaginal mucous membrane is in rugae or folds, and in inflammatory conditions these may be greatly increased so that the temperature produced from an electrode would be quite unevenly distributed.

The treatment in the acute stage is essentially palliative and consists of rest in the Fowler position, regulation of the diet and bowels, the application of heat, and the avoidance of trauma.

In the application of heat in the acute stage, the pelvis should be carefully guarded from trauma. In our opinion this can be most effectively accomplished by the use of short wave diathermy by the electromagnetic induction method. The patient should be lying on her back. Place one-half inch of bath towel over the lower abdomen. Form the cable into a pancake coil of two or more turns held in place by wooden separators. This avoids the introduction of any electrode or apparatus into the vagina.

The acute attack lasts generally from five to ten days. After this period the application of heat may be given by general hyperpyrexia, by short wave diathermy, by the Elliott treatment, or hyperpyrexia in combination with either the Elliott treatment or short wave diathermy.

### Conclusions

1 It is believed that the indications for the use of short wave diathermy are essentially the same as those for the use of conventional diathermy.

2 Short wave diathermy is more efficient in producing heat in human tissues than conventional diathermy, and the electromagnetic field is the most effective method for its application.

3 With its superiority in generating heat, it is possible to concede that short wave diathermy may prove to be of

greater use than conventional diathermy, or its use may produce successful clinical results where conventional diathermy has failed.

4 Further research and careful evaluation of clinical results are required.

### References

- 1 Mortimer B. and Osborne, S. L. J.A.M.A. 104: 1413 (April '30) 1935.
- 2 Mortimer B. and Beard G.: J.A.M.A. 103: 510 (Aug. 17) 1935.
- 3 Coulter, J. S. and Osborne S. L. Arch. Phys. Therapy 17: 135-139 (March) 1936.
- 4 Coulter J. S. and Carter H. A. J.A.M.A. 106: 2063-2066 (June 13) 1936.
- 5 Coulter J. S. and Osborne S. L. Arch. Phys. Therapy 17: 679-687 (Nov.) 1936.
- 6 Coulter J. S. and Osborne S. L. J. Med. 18: 283 (Aug.) 1937.
- 7 Coulter J. S. and Osborne S. L.: J.A.M.A. 110: 639 (Feb. 20) 1938.
- 8 Kovacs, Richard: Electrotherapy and Light Therapy Second edition Philadelphia Lea & Febiger 1935.
- 9 Campbell W. C. Practice of Surgery Vol. 2 Chapter 6 p. 204. Edited by Dean Lewis Hagerstown, W. F. Prior Co.
- 10 Wilson D. Principles and Practice of Physical Therapy. Vol. 1 Chapter 6 Hagerstown W. F. Prior Co. 1934.
- 11 Blinger C. A. L. and Christie, R. V. J. Exper. Med. 46: 671 and 585 (Oct.) 1927.
- 12 Stewart, H. E. Arch. Phys. Therapy 17: 98 (Feb.) 1936.
- 13 Blinger C. A. L. Principles and Practice of Physical Therapy. Vol. 1 p. 18 Hagerstown W. F. Prior Co. 1934.
- 14 Karsner H. T. and Goldblatt, H. J.A.M.A. 100: 1495 (May 13) 1935.
- 15 Coulter J. S. Med. Clinics North America January, 1939 Philadelphia W. B. Saunders Co.
- 16 Moncrief W. F. Coulter J. S. and Holmquist H. J.: Am. J. Ophth. 15: 3 (March) 1932 and 16: 13 (March) 1933.
- 17 Hollender A. R. Physical Therapeutic Methods in Otolaryngology St. Louis C. V. Mosby Co. 1937.
- 18 Beck, J. C. and Guttman M. R.: Principles and Practice of Physical Therapy, Vol. 2, Chapter 6, p. 24 Hagerstown W. F. Prior Co. 1934.
- 19 Andrew A. A. and Osborne S. L. Arch. Otolaryng. 24: 331 (September) 1936.
- 20 Rosenwasser, H. and Bierman W. Arch. Otolaryng. 25: 555 (May) 1937.
- 21 Shambaugh G. E.: J. U. M. I. 69: 417 (1936).
- 22 Schmidt C. R., Beazell, J. M. and Ivy A. C. Arch. Phys. Therapy 18: 677 (November) 1937.
- 23 Coulter J. S. and Osborne S. L. Arch. Phys. Therapy 17: 135 (March) 1936.
- 24 Horowitz, B. A. et al. Arch. Phys. Therapy 17: 422 (July) 1936.

### Discussion

Dr. Gustav Bucky, New York City—Everyone who has listened to Dr. Coulter's paper will agree that thorough and sober investigations have been performed by the authors. Neither bias nor overenthusiasm is noticeable in their statements. We are therefore entitled to compliment the authors for their precise presentation of the facts.

Being an old timer and pioneer in diathermy after using the method for more than twenty five years and having watched Schleichke in my own department in Berlin for six months I feel justified in the following statements which are in accord with Dr. Coulter's presentation.

First of all I am opposed to comparisons between diathermy and short waves in an assumpt

tion that one could replace the other. Physically and biologically their action is different. They are electromagnetic oscillations of the same physical nature but so are x-rays and ultraviolet rays too. There is no reason to assume similar or related biologic actions of all the wave lengths in the spectrum of the electromagnetic oscillations, even if their ranges are located closely together. The spectrum represents biologically and physically a rather arbitrary numerical order of the wave lengths, so far with practically no relation to specific biologic actions which are bound in their characteristics to rather narrow ranges of the spectrum.

Keeping these facts in mind our task should be to define the indications for each of the two methods and not to expect that there will be an equally beneficial effect in a certain disease. Such an undertaking requires a great material of similar cases. The paper of Dr. Coulter and his co-workers is one step forward in this direction.

Short wave therapy is stylish and has the marked advantage over diathermy in that its application is less time-absorbing and less pain-taking than that of diathermy. No doubt the danger is less, too, as to possible damages. These are some of the reasons, besides its therapeutic value, for the almost volcanic expansion of the short wave therapy in medicine. I don't know how many physicians now using short waves would be able to switch over to diathermy for the simple reason that the application of the electrodes would require much more of their valuable time. Results obtainable with diathermy depend greatly on knowledge and skill of the therapist. As soon as a method becomes a schematic or mechanical procedure results are apt to decrease. It does not matter so much that a certain method is used but *how* it is applied. I refer to cases treated before unsuccessfully which we could improve and cure by applying the same method.

According to my experience diathermy has a larger field of indications than short waves. On the other hand, there are affections like effusions, sinus troubles, certain acute infections, and others which are treated more efficiently by short waves.

It has been proved that the heat effect is quite different in different tissues with both methods, especially when we consider the manner of application. In diathermy there is a great difference between the longitudinal and transversal application. Here, the current is traveling similar to an ordinary current, mainly along the path of least resistance, if we may express it in a more popular way. And the current follows the law of OHM, which means a rather important change of the current path and heating of tissues with different applications. In short wave, however,

an electric field is established which shows no great differences in distribution of electricity and heat if we apply the electrodes either longitudinally or transversally. The consequence is that the art of giving diathermy treatment is a more delicate one requiring a rather extensive knowledge of physical, physiologic, and pathologic fundamentals. To apply diathermy in the proper way is more or less like playing a musical instrument which only a skilled individual can handle properly. Short wave therapy is a more mechanical method, less flexible, and does the trick in those rather limited indications in which it is superior to diathermy, more or less irrespective to subtle modalities and technic. Here the electromagnetic lines depend mainly on the contents of the irradiated area, whereas in diathermy the thorough therapist has to find out the most effective manner of application. Whereas in short wave therapy the location of maximal energy transformation into heat is more or less a given factor, it can be modified greatly in diathermy by placing the electrodes according to the pathologic requirements.

Let me emphasize, in a few words, another important factor hardly mentioned in literature. In by far the majority of the cases, physical therapy is applied to, or through the skin. Only the two last decades have taught us to recognize the importance of the skin in physiology and pathology, and its regulating action on internal organs and processes. I always emphasize the fact that skin is one of the most important communication organs with the outer world and a station for transforming different forms of energy into others useful for the body budget. In some respects it likens the digestive tract bringing energies into a state fit for body consumption. This energy nutrition is at least as important as that of food. You all know the consequences of depriving an individual of light radiation and temperature differences, to mention only the main factors.

In both our high frequency methods the skin is affected, but much more in diathermy. Do not assume that this heat of the skin penetrates to deeper layers by simple conduction. It is carried away mainly by the blood stream. But this heating of the skin accelerates the physiologic action of the skin tremendously. All its endocrine and autonomic functions are sped up. That cannot be without influence on the entire body. According to physical laws the maximal heating in diathermy takes place in the skin, not considering a few exceptions. It is by far less in short waves. Here is a striking difference of action of both methods, worthwhile to be investigated thoroughly in a large clinic.

A few words as to the names of the methods I hope my few explanations revealed the most striking differences in action which makes it mandatory to avoid misunderstandings by putting them so to speak under the same headline I suggest avoiding expressions like short wave or long wave diathermy—may Dr Coulter forgive me. The expression *diathermy* establishes a relationship which does not exist, in my opinion and if my reasoning might not be sufficient I refer to the literature. But now comes a rather comical point. The expression *diathermy* is much more applicable to short waves than to longer waves. We can obtain temperature elevation throughout the cross section of the body with short wave much more readily than with the old long wave diathermy in which the curve of the temperature fall in deeper layers is so steep that we can hardly talk of a heating throughout the cross section which is the meaning of the name. Expressions like *conductive oscillations* and *capacitative oscillations* would avoid confusion.

I deplore the fact that a method aims to absorb the field of a well established therapy without being able to fulfill the promises. The so-called simplicity has conquered the hearts of many physicians in general practice. However satisfactory results in difficult cases require the skill and experience of a specialist which is most evident in physical therapy.

Dr Harold J Harris, Westport New York—The persistent statements that ultra-short waves do not cause biologic responses in tissues differing from conventional diathermy is very confusing to the practicing physician who sees and reads so much to the contrary. There is much clinical evidence that waves in the neighborhood of 6 meters have a markedly salutatory effect on certain infections and that the longer waves do not. Oddly laboratory evidence such as quoted by Doctor Coulter seems to conflict. How then, can we reconcile these opposing points of view? Certainly we cannot dismiss the careful experimental and clinical evidence produced today and heretofore by Doctor Coulter and other workers of unquestioned ability. Neither can we ignore the clinical and laboratory evidence of Schleichke, Egan Kobak and others nor our own day-to-day results. Perhaps there is a simple explanation of why we now commonly abort infections superficial or deep or cause their prompt resolution whereas we were unable to do so before the advent of these ultra-short waves. Perhaps conventional diathermy would do the same things, but it never did them in my experience nor do I know of any such effects from the literature.

In the instance of the gonococcus it seems to be pretty conclusively proved that thermal death of the organism is accomplished and that it may be done by long or short waves the main difference being the greater ease of technique such as Bierman's and the time saving factor. If heat alone were the sole effect of the ultra short waves in other infections, why should we not get as good effect from long wave diathermy or the infrared lamp in superficial infections such as carbuncles as we do from ultra-short waves? I doubt if it is just the greater concentration of heat accomplished by ultra-short waves. It seems reasonably conceivable that certain as yet unidentified biochemical or biophysical effects are engendered by ultra short waves in tissues that are comparable to the effect of the roentgen ray. The result has been demonstrated. The explanation should be forthcoming ultimately. It required a great many years for the therapeutic effect of the roentgen ray to be generally accepted and even now its exact action is the subject of speculation.

I am sure that many will disagree with Doctor Coulter's statement that high frequency currents are contraindicated in acute inflammatory processes such as acute non-draining cellulitis, acute arthritis and acute pelvic infection. I have treated many of these conditions and have found the 6 meter wave to be of great value. Often the results are dramatic. I have used 6 meter diathermy through the lower abdomen during menstruation when necessary with no untoward effect other than slight increase of flow. Acute suppurative otitis media has resolved without drainage with properly applied 6 meter diathermy. Suppurative adenitis, cellulitis, acute suppurative bursitis, peritonsillar abscess, acute empyema of the antrum or frontal sinuses, acute infectious arthritis, furuncles and carbuncles have either resolved without drainage, have been sharply localized and drained spontaneously, or have made surgical drainage a safe and simple procedure.

The metal vaginal electrodes devised by Bierman, Horowitz, and Gottesman have been used with no ill effect referable to trauma and with safe heat distribution in the acute stage of pelvic infections when temperature elevations of just sufficient degree are attained. I have seen a rapidly spreading gonorrheal peritonitis, in a woman with a temperature of 104 F and board like rigidity of the abdomen, completely resolve within twenty four hours following an hour of 6 meter diathermy with vaginal electrodes at 111 degrees as well as scores of less spectacularly successful results.

The evidence compiled by many who specialize in conservative physical therapy as well as by other careful workers in this field tends to make one question the completeness of the conclusion that short wave diathermy is indicated for the same uses as conventional diathermy and to assert that properly selected ultra-short waves, generated by well constructed units of sufficient output, supplement the usefulness of the long wave current and, in many serious conditions, is effective where conventional diathermy is inefficient or perhaps even contraindicated. It is a source of satisfaction to know that Krusen very recently wrote "The indications for the use of short wave diathermy should be considered, in the light of present knowledge, to be the same as those for the use of conventional diathermy. *Further studies may prove that other indications do exist*" I stress the last sentence and venture to predict that further studies *will* prove this.

Dr Norman E Titus, *New York City*—I most heartily endorse everything that Dr Bucky said. He knows diathermy from A to Z and appreciates its true worth. This does not mean that he is not expert also in the handling of short wave, and with the years of experience back of him his opinion is well worth taking seriously.

I had many points about Dr Coulter's paper I wished to discuss but time will not permit. I must, however, mention that I disagree with him particularly in the use of short wave in infected processes. I think this is the greatest use we have for short wave, whereas diathermy is contraindicated.

I hope that at the meeting of the American Congress of Physical Therapy in Chicago next September, one-half a day will be given to a general meeting at which we can have a sort of debate on the uses and abuses of short wave and diathermy.

Dr Joseph Echtman, *New York City*—The paper on short wave diathermy is, no doubt, of interest. I wish, however, to emphasize that

various physiologic phenomena that may appear during or after treatment especially depending upon the skin zones where the active electrode is applied, have shown that there is a difference in the reactions, between short wave and diathermy, if one studies them carefully. Lichterman and his co-workers who studied these reactions employed conventional and short wave diathermy directing the energy to the same area of the spinal column. On placing the active electrode in the region between the fourth cervical and the second thoracic they have observed a series of interesting physiologic phenomena of which I shall mention the following because of their great clinical importance. (1) Diathermy tends to lower the intraocular pressure while short wave causes a tendency to increase that pressure. (It is important to keep this in mind in treating patients suffering from glaucoma or detachment of the retina, and for cervicodorsal spondylitis.) (2) Diathermy applied to that zone causes a noticeable hypotensive action. Short wave does not cause any noticeable hypo- or hypertensive action. Another interesting phenomenon is the behavior of short wave when applied to the region of the head as, for instance, in the treatment of sinus conditions by short wave diathermy. When one employs the thermocouple he may find in many patients the temperature at the end of the séance to be less than that at the beginning. This is because the lines of the condenser field passing through the brain may affect the thermoregulating center. In animals, especially when higher intensities were employed, a destruction of some cells of that center was observed (Slavsky). Referring to the employment of short waves in arthritis and bursitis I can state that according to my most careful observations, short wave does not materially affect calcified (subdeltoid) bursitis especially if the air-spaced method is employed. The same may be said with reference to hypertrophic arthritis where there is spur formation. This can no doubt be proved by a radiologic study.

## A SAD DAY

It will be a mighty sad day for the American people when they have to take a doctor because he is a good politician, or when groups decide to let their practice to the lowest bidder—*The Mississippi Doctor*

## THE CORN ACKNOWLEDGED

Baby Ear of Corn "Mama, where did I come from?"

Mama Ear of Corn "Hush, dear, the stalk brought you"—*Wisconsin Retail Grocer*

Out of the everywhere into the ear?

# A PLEA IN BEHALF OF THE ANOXEMIC PATIENT

JOHN H. EVANS, M D, Buffalo, New York

THERE is no doubt that thousands of lives could be saved each year by a better understanding of oxygen therapy. Anoxemia is frequently a serious complication of many diseases and conditions and its control is often of vital importance. Even a slight lowering of the blood oxygen in a critically ill pneumonia patient may tip the scales to the fatal side. Reports by experts in oxygen therapy show that the dosage of oxygen now in general use, namely, "40 to 60 per cent," is inadequate for the successful treatment of severe anoxemia. As oxygen is a specific for anoxemia when enough is given, the remedy is to remove the restrictions which, without just cause, have been placed on the dosage of oxygen.

An attempt will be made to show (1) that 40 to 60 per cent oxygen fails to restore the arterial blood oxygen to its normal level in cases of severe anoxemia, (2) that this dosage was based on a fallacious theory, (3) that the so-called 'dangerous percentages' of oxygen, namely, those between 80 and 100 per cent, are safe and necessary for the successful treatment of anoxemia, and (4) that even when there is no cyanosis 100 per cent oxygen can be safely administered continuously throughout the course of pneumonia.

## Failure of 40 to 60 Per Cent Oxygen

When oxygen therapy is being administered by a novice and the clinician observes that his patient is still deeply cyanotic even while under the oxygen tent, he may be inclined to attribute the failure to faulty application of the method rather than to the low concentrations of oxygen employed. This inclination of the clinician to blame the technique rather than the oxygen percentages is supported by the claim, which

has appeared from time to time in our medical journals, that "The administration of 40 to 60 per cent oxygen to pneumonia patients suffering from acute anoxemia raised the oxygen saturation of the arterial blood to or near the normal value."

It will be shown that this claim is not borne out by the facts, as the following reports by experts in oxygen therapy show.

In 1921 Barach and Woodwell<sup>1</sup> reported 10 cases of pneumonia to whom oxygen was administered. The arterial blood oxygen was restored to its normal level in only 4 of the cases.

In 1922, Stadie<sup>2</sup> reported on the effect of treating 8 cases of pneumonia in an oxygen chamber. In several an arterial unsaturation of 35 to 50 per cent was quickly relieved and the blood became almost completely saturated. In other cases the anoxemia was partially relieved. In some instances, despite the administration of 50 to 60 per cent of oxygen, the arterial unsaturation remained high.

In 1925, Binger<sup>3</sup> published charts which showed the effect of 40 to 50 per cent oxygen on the anoxemia of 5 pneumonia patients. The oxygen failed in all cases. The nearest approach to success was when in 1 case the cyanosis was abolished for two days out of the three and a half days of treatment.

In 1926, Barach<sup>4</sup> reported 16 cases of pneumonia treated with 40 to 60 per cent oxygen. In the report he states that "in only two cases was the arterial oxygen brought to the normal level."

In 1929, Hames and Boothby<sup>5</sup> reported 91 cases where oxygen was given following thyroidectomies. Some of these patients developed pneumonia. They state "In 65 of the 91 cases definite cyanosis was

present on the patient's admission to the chamber

The cyanosis was controlled at once in all cases, but in a few instances it reappeared even in concentrations of oxygen from 50 to 60 per cent as the pneumonia progressed in both lungs. In cases in which it was necessary to use progressively higher concentrations of oxygen to control the cyanosis and in which finally it was impossible to control it, all the patients died."

Haines and Boothby apparently did not exceed 60 per cent concentration of oxygen in the treatment of these cases, as Boothby<sup>7</sup> in 1932 expressed his views on oxygen dosage as follows: "The concentration of oxygen in the tent, at or near the sea level, should never exceed 60 per cent and should preferably be maintained as close to 50 per cent as possible."

In 1929, Barach<sup>1</sup> reported the results obtained by the administration of 40 to 60 per cent oxygen to 100 anoxemic pneumonia patients. Each case is reported separately, but Dr. Barach failed to summarize the effect of the oxygen on cyanosis. The writer will attempt to do this as well as he is able from the data submitted. It appears that the arterial blood oxygen was restored to its normal level in only 3 cases, in 51 cases it was restored to near the normal level, while in 46 cases the arterial oxygen saturation was less than 85 per cent even while they were inhaling the oxygen, and in 9 of them it was below 80 per cent.

According to Stadie<sup>8</sup> there is a 93 per cent death rate in pneumonia when the arterial blood oxygen falls below 80 per cent. This, then, may be called the asphyxial death zone in pneumonia. The fact that the 9 cases of Dr. Barach's died substantiates Stadie's observations. In this series of 100 cases there were 45 deaths and 55 recoveries, and it appears that the recovery group was 43.3 per cent better oxygenated than the mortality group.

### The Healthy Animal Theory

As "40 to 60 per cent oxygen" was based on the theory that the clinical

dosage of oxygen could be determined by experiments upon healthy animals, it may appropriately be called the healthy animal theory.

This theory is divisible into three parts, all of which, it will be shown, are contrary to fact.

The first part of the theory assumes that facts concerning human beings and the lower animals are interchangeable and that data obtained by experiments upon animals would therefore apply to humans.

This assumption is contrary to the facts, as there has never been any uniformity in the reactions of humans and the lower animals to drugs or other therapeutic agents. Even the various species of animals react differently, and facts which apply to one do not necessarily fit another. For example, the anesthetic dose of sodium amytal for a human could not be determined by any of the lower animals, as it is, per kilo for a human, 8 mg., for a rabbit, 45 mg., for a dog, 60 mg., and for a rat, 90 mg. Dogs can safely tolerate doses of morphine that would be fatal to humans. It requires only 0.5 cc. per kilo of air when injected into a vein to kill a rabbit, but 15 cc. per kilo is required to kill a dog.<sup>9</sup> Many more such examples could be cited.

Unlike humans, the animals used in the experiments were covered with hair. It has been found that when a rabbit is shaved the metabolic rate is increased 30 per cent,<sup>10</sup> which should mean a 30 per cent increase in oxygen tolerance.

It is apparent that, inasmuch as facts concerning humans and the lower animals are not interchangeable, the only way to determine human tolerance to oxygen is to make the necessary tests on human beings.

The second part of the theory assumes that if a given dosage of oxygen is harmful to a healthy animal, it would also be harmful to an anoxemic patient.

Clinicians are constantly giving therapeutic doses that would be detrimental or fatal to healthy animals or persons. Take, for example, the dosage of insulin

required for the successful treatment of diabetic coma, the large amounts of morphine necessary to relieve a patient suffering severe pain, and the large volume of normal salt solution that can safely be injected into the circulation of the shocked or exsanguinated patient. The dosage in these cases far exceeds the safe dosage for normal individuals.

We have given continuous 80 to 100 per cent oxygen to dogs suffering from distemper for several days with only beneficial results.

The third part of the theory assumes that the tolerance of healthy animals to oxygen represents dosage for the treatment of anoxemia.

When a vital constituent of the body, such as insulin or oxygen, is reduced from normal, the term dosage, as generally used, is the amount required to restore it to its normal level. This depends entirely upon the degree to which it is reduced and has nothing whatever to do with the tolerance of healthy animals. How can it be possible to determine the required dosage of insulin or oxygen for the treatment of diabetes or anoxemia by observing the reactions of healthy animals to these agents? All of their body constituents are up to par and all that can be learned is how much in excess of normal they can tolerate.

It was found that healthy rabbits could inhale 60 per cent oxygen for as long as four months without harm.<sup>11</sup> Had these animals been anoxemic their tolerance to oxygen would have been found to be much greater.

In cases of anoxemia we have to consider first, the dosage required to restore the arterial blood oxygen to its normal level, second, the amount beyond this point that can be safely tolerated. The total tolerance of such an animal would be the usual dosage plus the tolerance of a healthy animal.

We know that 40 per cent will restore the blood oxygen to normal if the anoxemia is of mild degree. After this percentage has been given and the arterial blood oxygen is at the same level as that of a healthy animal, there is still an

oxygen tolerance of 60 per cent. Adding the 40 and the 60 we find that an animal with only a mild degree of anoxemia has a total tolerance of 100 per cent oxygen. If it requires 100 per cent oxygen to restore the arterial blood oxygen to normal, it is logical that after this has been accomplished 60 per cent more could be given with safety. The 100 per cent is dosage, as that term is used for deficient body constituents, and the 60 per cent is the amount of oxygen which can be safely inhaled by an animal with normal blood oxygen.

In order to administer 160 per cent oxygen, it will, of course, be necessary to give it under pressure greater than that of the atmosphere at which pressure oxygen is generally given.

The dosage of oxygen has been curtailed to fit a theory which is contrary to medical teaching and practice. In all other therapies we are taught that the patient, and not a healthy animal, is the guide to dosage. In practice we give enough to obtain the desired results, and are not interested in the effect which the required dosage would have on healthy animals.

In oxygen therapy the reverse is the case. The dosage is governed entirely by the reactions of healthy animals to oxygen, and the objective, which should be the restoration of the arterial blood oxygen to normal, is lost sight of. This is accomplished only in those cases where the anoxemia is of mild or moderate degree. Apparently the reason for adopting a separate ruling for the dosage of oxygen was that it was found to be fatal to healthy animals. On this basis the same ruling should be applied also to insulin since it, too, cannot only be fatal to healthy animals but to humans as well.<sup>12</sup>

Healthy animals have been thrown into fatal convulsions with from 10 to 16 units of insulin.<sup>13</sup> If the healthy animal theory were applied to insulin therapy, the maximum dosage would be less than 10 units, which would be sufficient dosage perhaps for mild cases of diabetes. However, this is inadequate



for the treatment of severe diabetes, as many times the fatal dose for a healthy rabbit is often required. For example, Joslin<sup>12</sup> has given 100 units twice a day intravenously for several weeks without a single insulin reaction. The maximum dose of insulin, if governed by the healthy animal theory, would be as ineffectual in the treatment of severe diabetes as 60 per cent oxygen is for severe anoxemia.

When the clinician is engaged in the duty of restoring these two deficient body constituents to their normal level, he is confronted by two contrasting admonitions. He is told that in the treatment of diabetic coma the danger is in giving too little insulin, and that in dealing with asphyxia the danger is in giving too much oxygen.

We know that good health depends upon keeping the vital constituents of the body at their normal levels. We know, too, that death may result when they are markedly reduced. The advocates of the healthy animal theory would have us believe that in cases of severe oxygen want, the arterial blood oxygen cannot be restored to normal without jeopardizing the life of the patient. What about the danger to life when this is not accomplished?

When the dosage of oxygen is governed by the healthy animal theory, oxygen therapy is prevented from functioning successfully in those cases where it is most needed.

### The 40 Per Cent

Why was the pre-eminently safe dosage of 60 per cent oxygen reduced to 40 per cent for the treatment of mild cases of anoxemia? No reason has ever been given. At least it was not based upon clinical or experimental data. This 33 1/3 per cent reduction has worked to the detriment of the anoxemic pneumonia patient.

When oxygen therapy is instituted, the anoxemia may be mild and, as recommended, only 40 per cent oxygen given. However, the anoxemia may suddenly become severe due to new involvement of lung or to pulmonary edema, and

many hours may elapse before the patient is again seen by his physician and the concentration of oxygen raised to 60 per cent. During this time he has suffered from a certain degree of anoxemia which could have been, even according to the healthy animal theory, safely avoided.

### Warnings

The clinician has been influenced not to depart from the dosage of "40 to 60 per cent oxygen" by frequent warnings such as the following: "Very rich oxygen mixtures, such as those between 80 and 100 per cent, have repeatedly been shown to produce irritant inflammatory lesions in the lungs when used continuously for two to three or more days."<sup>14</sup>

Warnings such as this would not be so potent in preventing the clinician from giving enough oxygen to abolish cyanosis, if it were made clear that the "inflammatory lesions" had not been produced in the lungs of anoxemic patients or animals, but only in the lungs of healthy animals in which oxygen therapy was not indicated.

In 1934, Dr Barach made the following statement: "The use of oxygen concentrations between 90 and 100 per cent in human beings for long continuous periods is entirely unwarranted by present experimental data. The author has previously expressed his disagreement with the advice of Evans to employ these very high concentrations."

To the clinician it is important to know whether anoxemic or healthy animals were employed in securing the "experimental data." This point should have been made clear.

The consolidation of lung tissue which can be produced in healthy animals with 80 to 100 per cent oxygen is explained by Binger<sup>15</sup> as follows: "This process possibly is of a protective reaction nature on the part of the organism, but going too far culminates in death."

It does not seem proper to use the term "inflammatory lesions" when referring to these areas of consolidation,

since there is no fever and no bacterial invasion.

### Defense of Theory by Dr Barach

In defense of the healthy animal theory, Dr Barach, in 1934, said<sup>14</sup> "The argument of Dr Evans that investigations of the effect of pure oxygen in animals applies only to normal lungs and would therefore not apply to diseased lungs seems fallacious to me. The pneumonia patient may have only one or two lobes involved and the rest of the lungs normal. There is every reason to believe that pure oxygen administered for two or more days would cause pulmonary irritation and edema in these normal lungs" Dr Barach has apparently overlooked the fact that there is no normal lung tissue in a patient suffering from pneumonia. It is true that the consolidated areas are more diseased than the rest of the lungs, but it is only one of degree. The tissue which Dr Barach terms "these normal lungs" is characterized by fever, abnormal cell chemistry, toxemia, possibly anoxemia or bacteremia, and an accelerated metabolic rate. None of the requirements for normal lungs are present in these so-called uninvolved areas.

Since there is no normal lung tissue in pneumonia, the healthy animal theory does not apply, and Dr Barach's prediction regarding pulmonary edema can be disregarded.

### The 70 Per Cent

It appears that, according to the healthy animal theory, 70 per cent oxygen should have been included in the dosage. At least, no conclusive evidence has been produced to classify it as "dangerous."

In 1926 Dr Barach<sup>11</sup> subjected 2 healthy rabbits to 70 per cent oxygen. At the end of three weeks (exp 8) one of them "appeared active and well" and had gained 170 Gm in weight. This rabbit was then used for another experiment. The other rabbit (exp 5) was apparently active and well for twelve days, as there is nothing in the record to the contrary. However, on the twelfth

day the flow of oxygen into the chamber was accidentally shut off and the rabbit died of asphyxia. Apparently there was nothing found at the autopsy that could not be explained by the slow asphyxial death. However, it was thought that "70 per cent oxygen appeared responsible for serious exudate into the alveoli."

Apparently it was on this fine discrimination in the interpretation of the autopsy findings that 70 per cent oxygen was, for eight years, excluded from the clinical dosage.

Eight other rabbits were used during this investigation to test their reactions to various concentrations of oxygen, and in his summary Dr Barach said "On the basis of the above experiments, the highest concentration of oxygen compatible with safety should be regarded as 60 per cent."

In 1934, Dr Barach<sup>14</sup> modified his previous views as follows "There are especially severe cases in which concentrations as high as 70 per cent may be used continuously for two to three days or more."

### Dr Sayers' Experiment with 100 Per Cent Oxygen

It was formerly thought that if 100 per cent oxygen were inhaled for more than a very brief period of time serious damage to the lungs would result.

In 1925, the writer personally inhaled pure oxygen for four hours a day for several days without harmful effects. This was done in order to find a safe dosage for the treatment of diseases not complicated by anoxemia.

In 1928, Sayers<sup>16</sup> found that healthy animals (rabbits, guinea pigs, and white rats) could safely inhale pure oxygen for sixteen hours a day for at least fifty consecutive days, thus materially changing previously conceived notions regarding the toxicity of oxygen in healthy animals.

Dr Sayers' experiment opened up new possibilities for the advocates of the healthy animal theory. However, it did not appear to attract attention until several years later, although it was pub

lished by the author several times, the first being in 1928 <sup>17</sup>

### Proposed Change in Oxygen Dosage

In 1936, Dr Barach<sup>18</sup> published the results of an investigation based on Sayers' experiment "Dr Sayers, in unpublished work, shows that animals can live in pure oxygen sixteen hours a day without harmful effects. I have confirmed Dr Sayers' work but have also shown that if animals are kept in 50 per cent oxygen instead of air the remainder of the time, pulmonary edema develops. However, it appears safe from animal experiments to administer from 90 to 100 per cent oxygen for ten or twelve hours a day and 50 per cent oxygen the rest of the time"

Dr Barach still continues to stick tenaciously to the theory that oxygen dosage must be based on the reactions of healthy animals only

The alternate use of 100 per cent and 50 per cent oxygen may be satisfactory for mild cases of anoxemia provided there is no danger of a sudden increase in the degree of anoxemia. This method, however, will not be practical or desirable for cases of severe anoxemia, if continuous normal oxygenation of the blood is the objective sought

Suppose this alternating dosage had been used for the 9 cases of Dr Barach's in which the arterial blood oxygen was below 80 per cent in spite of the 40 to 60 per cent oxygen. For twelve hours they would be in the recovery zone with a bright pink color, and in the asphyxial death zone for the following twelve hours with a deeply cyanotic color

In the carrying out of any method of treatment the psychology of the patient must be taken into consideration. It will be difficult to persuade a patient, after he has been free from dyspnea for twelve hours, that it is to his advantage to suffer from it for 50 per cent of the time.

### Clinical History of Oxygen

Beddoes<sup>19</sup> was the first to investigate the therapeutic value of oxygen. His

research, which extended from 1793 to 1801, included other gases as well. He found that oxygen was valuable in the treatment of various diseases and conditions. He was the first to substitute a light gas for the nitrogen of the air in the treatment of asthma. He said "In asthma it is extraordinary that oxygen, hydrogen, and hydrocarbonate, should have afforded relief"

No interest was again taken in oxygen therapy until 1917, when Barcroft<sup>20</sup> began treating gassed soldiers with 40 to 50 per cent oxygen. His favorable report on 23 cases appeared in 1920

This gave an impetus to other investigators, and reports on the effect of 40 to 60 per cent oxygen in pneumonia soon followed

The writer began the use of the so-called dangerous percentages of oxygen with mingled doubts and hopes. In 1923, 100 per cent oxygen was given for three minutes out of every five to a moribund pneumonia patient. The treatment was begun on the sixth day of the disease and the patient died on the eleventh. Apparently the oxygen prolonged life

In 1925, continuous 80 to 85 per cent oxygen was given to 2 apparently hopeless cases of pneumonia for ten and fourteen days, respectively. Both recovered <sup>21</sup>. One of these cases had marked abdominal distension, and enemas had been unsuccessful. Twenty-four hours after oxygen therapy was begun, the distension had disappeared and the bowels again became active

In 1926, a patient with complete post-operative collapse of the right lung was given continuous 100 per cent oxygen for seven days with recovery. The expiratory valve was so regulated that there was a slight positive pressure during exhalation. X-rays taken every other day showed increasing aeration of the lung <sup>21</sup>

Since then 100 per cent oxygen has been the percentage of choice and none of the predicted disastrous effects have ever resulted. When pure oxygen is given by means of a properly fitting mask there

is little, if any, air dilution. Tests show the concentration to vary from 90 to 98.8 per cent, when the oxygen is taken from under the mask.

Over 800 cases of anoxemia have been given continuous 100 per cent oxygen. These included pneumonia, pulmonary emboli, asthma, atelectasis, empyema, cardiac decompensation, coronary thrombosis, and many other conditions in which anoxemia is a complicating factor.

There were 510 cases of pneumonia, only a small percentage of which were given oxygen by the tent method. When it was necessary to use the tent, 70 per cent oxygen was given, which is the maximum concentration possible with this method unless a wasteful amount of oxygen is used.

The difference between the clinical results of 70 per cent and 100 per cent oxygen has been demonstrated in many cases in which the 70 per cent oxygen failed to abolish cyanosis. The increased oxygen not only abolished the cyanosis and made the patient more comfortable, but usually had a pronounced beneficial effect on the temperature, pulse, and respiratory rates.

Some of the cases were given 100 per cent oxygen continuously for from two to three weeks, the longest being twenty-eight days. Many of the patients were so desperately ill that two oxygen machines were used so that the treatment was not interrupted while the cylinders were being changed.

The best results in pneumonia have been obtained when 100 per cent oxygen was given continuously from the very beginning of the disease whether cyanosis was present or not. In many, the course of the disease seemed to have been shortened.

There are several reasons for routinely giving 100 per cent oxygen, rather than only that percentage which will restore the blood oxygen to normal.

It is a safeguard against any sudden increase in the anoxemia. It gives the greatest reduction in heart<sup>22</sup> and respiratory rates and keeps the bronchial tubes free of secretions than the lesser per-

centages. In our experience the sedative action of oxygen on cough is more marked as the concentration is increased. Some of the patients stopped coughing altogether after the first hour. During this first hour the cough was more productive, but when the mucus was once removed, it did not often return. Kidney function is maintained at its maximum.<sup>23</sup>

Apparently these advantages help nature in building up an immunity. It is probable that the deleterious effect of oxygen on certain bacteria increases as the percentage of oxygen is increased, which also applies to the oxidation of toxins.

The importance of instituting oxygen therapy at the onset of the pneumonia cannot be too strongly emphasized.

In a previous paper<sup>24</sup> it has been shown that the mortality rate apparently increases in proportion to the delay in starting oxygen therapy, it was also pointed out that the death rate in 77 cases where oxygen therapy was begun on the first day of the disease was only 3.8 per cent.

#### Oxygen for Pneumonia Uncomplicated by Cyanosis

In some of the cases, continuous 100 per cent oxygen was given from the beginning to the end of the pneumonia, during which time cyanosis was not at any time a complicating factor. The good results obtained in these cases have convinced us that pneumonia in itself is an indication for oxygen therapy.

A natural question to ask is "Why give oxygen when the arterial blood oxygen is already normal?" The answer is to conserve the energy and vitality of the heart.

Benedict and Higgins<sup>25</sup> found "no material change in the pulse rate of normal individuals when the oxygen inhaled was raised to 40 per cent, a slight though noticeable slowing occurred when 60 per cent was inhaled and a very positive slowing when 90 per cent was administered."

When 100 per cent oxygen is inhaled the blood plasma contains five times the normal amount of oxygen, and the normal

96 per cent saturation of the hemoglobin is raised to 100 per cent. The lessening or abolishing of the cough is another important factor in conservation of energy.

It may also be asked "Is it safe to give continuous 100 per cent oxygen to pneumonia patients when there is no anoxemia?" There are two factors in pneumonia which increase the patient's tolerance to oxygen, namely, the increase in the metabolic rate and the lung pathology. For every degree of fever there is a 5 per cent increase in the metabolic rate. Smith<sup>25</sup> in 1899 showed that mice whose lungs were damaged could tolerate markedly higher tensions of oxygen than those with normal lungs. Clinically, we have found it not only to be a safe procedure, but also markedly beneficial and appreciated by the patients.

The prognosis in a disease such as pneumonia is dependant upon many factors, such as the previous health of the patient, age, type of infection, bacteremia, and complications. It is possible in nearly all cases to prevent one of the most serious of these complications, namely anoxemia.

The serum treatment of pneumonia is not a contraindication for the use of oxygen. We have found that the same reasons for using oxygen apply whether serum is given or not.

### Subcutaneous Oxygen

There was a small percentage of our cases in which the lung involvement was so extensive that even 100 per cent oxygen failed to abolish all of the cyanosis. In some of these we supplemented the inhalation oxygen by the injection of large amounts of oxygen under the skin. We found that the subcutaneous oxygen was usually helpful in abolishing the residual cyanosis, provided that the circulation had not begun to fail.<sup>26</sup> Apparently good peripheral circulation is necessary for the absorption of the oxygen.

It is true that the amount of oxygen absorbed per minute by the subcutaneous method is so small that its beneficial effect on cyanosis cannot be explained,

yet there is abundant clinical evidence in its favor.

### Methods of Administration

We use the McKesson oxygen apparatus in administering 100 per cent oxygen for two reasons. First, it economizes on oxygen because the flow automatically shuts off during exhalation, and second, the interruption in the oxygen flow is appreciated by the patient, as a constant flow may be annoying. In order to administer oxygen successfully by this method the mask must be properly fitted to the face, the volume of oxygen correct, and the spring on the expiratory valve regulated so exhalation is easy. In cases of pulmonary edema or atelectasis slightly increased pressure is indicated. The best way to gain the necessary knowledge to operate the apparatus is by the physician himself inhaling oxygen daily for several days. When continuous oxygen is given, a check up on the apparatus should be made two or three times a day.

### Tent

If for any reason it is not possible to employ the mask method, we use a small tent which we have made for our use. There is good visibility and because of the small space the oxygen concentration is quickly built up to 70 per cent. Circulation is maintained in the tent by the oxygen being forced under high pressure through very small holes, and then diverted to the patient's face by means of a deflector.

Very rarely have we found it necessary to use an ice-cooled tent. It is questionable whether the low temperatures in these tents are desirable, especially for patients at either extremes of life or where the fever is not high.

Three large cylinders of oxygen connected by a manifold is usually enough for twenty-four hours, regardless of the method employed.

### Conclusions

1. For the successful treatment of severe anoxemia "40 to 60 per cent oxygen" is inadequate dosage.

2 The generally accepted dosage of "40 to 60 per cent oxygen" is based on a fallacious theory

3 Continuous 100 per cent oxygen can be safely administered in pneumonia with gratifying results regardless of cyanosis.

4. Subcutaneous oxygen may sometimes be a valuable adjuvant to inhalation oxygen in the treatment of anoxemia

In closing, I wish to express my appreciation of the valuable services of my partner Dr C J Durshordwe, who, during the past ten years, assisted in this clinical research, and also for those of Dr George M Shearer, who assisted during 1926 and 1927

I also wish to thank the Linde Air Products Co for their generous contributions of oxygen which made the early part of this work possible.

519 Franklin Street

## References

1. Barach, Alvan L. New York State J Med 29 935-993 (Aug. 15) 1929
2. Barach, Alvan L., and Woodwell Margaret N. Arch. Int. Med., 28: 394 (1921)
3. Stadke, Wm. C.: J Exper Med, 35 1353 (1922)
4. Binger, C. A. L. New York State J Med. 23: 933 (1923)
5. Barach, Alvan L. Arch. Int. Med. 37 196 (1925).
6. Haines, Samuel F., and Boothby Walter M. Am. J Surg. n.s. 6: No. 1 1-6 (1929)

7. Boothby Walter M. J.A.M.A. 99: No. 25 2106-2112 (Dec. 17), 1932.
8. Stadke Wm. C. J Exper Med. 30: 215 (1919)
9. Wolfe, Joseph B. and Robertson Harold F: Ann. Int. Med., 9: 162 (Aug.) 1935
10. Crile George W. Recent unpublished address.
11. Barach, Alvan L. Am. Rev Tuberc., 13: No. 4 293-316 (April), 1920
12. Joslin Elliott P. The Treatment of Diabetes Mellitus, Lea & Febiger Philadelphia p. 347 (1937)
13. Bowen, Byron D., and Beck, Edgar B.: Am. Int. Med. 6: 1412 (1933)
14. Sigwald, L. Hypoglycemia Doin et Cie, Paris (1932)
15. Well, Arthur Liebert, Erich, and Heilbrunn Gert.: Arch. Neurol. & Psychiat. 39: No. 3 407 (March), 1938.
16. Barach, Alvan L.: New York State J Med., 34. 672 (August) 1934.
17. Binger C. A. L., Faulkner, J. M. and Moore R. L. J. Exper Med., 45: 849 (1927)
18. Sayers, R. R. Personal communication.
19. Evans, John H. Bulletin Med. Soc. Erie Co. N. Y. (April 14) 1928. J.A.M.A. n.s. 24: No. 4, 211-222 (April) 1929. Canad. M.A.J., 22: 515 (April) 1930. Current Researches in Anesth. & Analg. 8. No. 5 287-291 (Sept.-Oct.) 1927
20. Discussion of papers by Dr Barach. Bulletin Med. Soc. Erie Co. N. Y. (September) 1932. New York State J Med 34: No. 15, 679 (Aug.), 1934
21. Barach, Alvan L.: J.A.M.A. 106 725 (Feb. 29) 1936.
22. Beddoes, Thomas and Watt, James. Considerations of the Medicinal Use and on the Production of Facilitious Airs p. 105, Part 1 by Beddoes Part 2 by Watt 1795 Grosvenor Library Buffalo, N. Y.
23. Miller, A. H. Am. Med. History, n.s. 3: 253-260 (May) 1931. Current Researches in Anesth. & Analg 12 No. 4, 137-143 (July-Aug.), 1933
24. Barcroft Joseph, Hunt, G. H., and Dutton, Dorothy. Quart. J Med., 13: 179-200 (Jan.), 1920.
25. Evans, John H. Current Researches in Anesth. & Analg., 6 No. 2 57-63 (April) 1927
26. Evans, John H.: Med. J and Rec. 349-353 (April) 1923.
27. Benedict, F. C., and Higgins, H. L. Am. J Physiol., 28. 1 (1926)
28. Fisher Martin H.: Edema and Nephritis 14: 316 (1915)
29. Evans John H. and Durshordwe C. J. Current Researches in Anesth. & Analg., 162 (July-Aug.), 1935.
30. Smith, J. Lorrain.: J Physiol., 24: 19 (1899)
31. Evans, John H., and Durshordwe, C. J.: Current Researches in Anesth. & Analg., 16: 211-218 (July-Aug.) 1927

## A SHORTAGE OF SYPHILOLOGISTS

Approximately 1 per cent of the 100 000 prospective brides and bridegrooms examined since July 1 under the Desmond Breitbart premarital medical examination law were found to be infected with syphilis, State Senator Thomas C. Desmond announced at the National Social Hygiene day dinner in Schenectady

"It is also a reasonable belief" Senator Desmond said that other thousands, aware of their infection delayed marriage until they could be certain of passing the required tests.

Senator Desmond said, in part

The next steps in the fight on syphilis should be establishment of more public health clinics,

better training of doctors in new methods of diagnosis and cure of syphilis, and continuance of educational programs to prevent the spread of venereal disease.

Despite marked progress in general medical practice, a lamentable fact is that far too many doctors are unfamiliar with the most modern methods of either diagnosis or treatment of venereal disease

"The work that the New York State department of health is doing to educate doctors in the technical aspects of syphilis is commendable and should be extended. There is a shortage of competent syphilologists"

# PRACTICAL EPIDEMIOLOGY OF GONOCOCCIC INFECTIONS IN CHILDREN

THEODORE ROSENTHAL, M D and JOSEPH WEINSTEIN, M D , M S P H ,  
New York City

*(Director and Medical Consultant, Respectively, Bureau of Social Hygiene, Department of Health,  
New York City)*

**T**HERE has been a growing appreciation recently by public health authorities in the United States of the importance of gonorrhea as a public health problem. The Advisory Committee to the United States Public Health Service<sup>1</sup> strongly recommended that gonorrhea be given a place with syphilis in any effective program for venereal disease control. Among other provisions, the need for research on the epidemiology of gonococcic infections was pointed out. In a round-table discussion,<sup>2</sup> the Advisory Council of the Milbank Memorial Fund, devoted much attention to the importance of epidemiologic investigation in the control of gonorrhea. Special consideration was given to the methods of spread of the disease in female children, and the prevention of gonococcic ophthalmia in the newborn.

Gonococcic infection in children has long been recognized as an epidemic disease. Atkinson,<sup>3</sup> in 1878, one year before Neisser discovered and described the gonococcus, reported an institutional outbreak in Baltimore in which 6 cases of vulvovaginitis in children, all of whom slept in the same dormitory, occurred. Investigation disclosed the fact that during the night the girls would creep into bed occasionally with one another, the spread of the infection was ascribed to this intimate contact. Coincident with the occurrence of these vulvitis cases, there were also 3 cases of ophthalmia, which had prevailed in the institution for eighteen months preceding the appearance of the vulvovaginitis. The origin of the latter cases was accounted for by the ocular discharge being

conveyed to the genitals of the younger children, most probably by the fingers of some of the older girls.

## Prevalence and Distribution of Gonorrhea in Children in New York City

It is impossible to state definitely, from case reports alone, how much gonorrhea exists among children in New York City. Generally speaking, the disease occurs endemically with a tendency to spread in localized epidemics. It is undoubtedly more prevalent among children of tenement households, where unhygienic and overcrowded conditions co-exist. Wehrbein,<sup>4</sup> in her study of 721 reported cases of gonorrhea in children under 16 years of age, stated that 16.36 per cent occurred in boys and 83.64 per cent in girls, 75.59 per cent were classified as vaginitis, 15.25 per cent as urethritis, and 9.16 per cent as gonorrheal ophthalmia. The highest peak (32.35 per cent) in the vaginitis group occurred in girls 6 to 10 years of age.

It is interesting to note that, while in Wehrbein's study the incidence of gonorrhea in girls was more than five times as high as in boys, data compiled by the United States Public Health Service<sup>5</sup> indicate that of the total number of cases of gonorrhea under treatment in the population as a whole, 74 per cent occurred in males and 26 per cent in females. The higher incidence of gonorrhea in males as compared with females in the total population probably prevails also in New York City. Thus, the number of recognized cases of gonorrhea is higher in female than in male children, while the reverse condition exists

in adults. Of 12,935 reported cases of gonorrhea in New York City for the calendar year of 1938, 75 per cent were males and 25 per cent females. In the age group 1 to 14 years, there were 61 males and 343 females.

Clarke<sup>8</sup> has pointed out that numerous cases of gonorrhea in little girls are yearly reported to the Department of Health, and that there are probably many unreported and undiagnosed cases among the poor in New York City.

Berens<sup>7</sup> quotes statistics from the Woman's Hospital in New York City showing that out of a total of 6,918 infants born in that institution during a five-year period (1933-1937), 1.5 per cent developed ophthalmia neonatorum, 3.85 per cent of these cases were due to gonococcus infections.

In a group of 113 cases of gonorrhea in female children studied by Brunet and others,<sup>9</sup> where family contacts were examined, positive infections of more than one person in the household were discovered in 92 per cent of the cases. Sixty per cent of the mothers of these children showed positive evidence of gonorrhea, the remaining mothers had signs of chronic leukorrhea, 75 per cent of the fathers examined were infected. Thus, in the vast majority, i.e., 92 per cent of the cases in this study, the presumed source of infection was found in the family, in a small minority, i.e., 8 per cent of the cases, it was found outside the family.

### Case Investigation

Nelson<sup>6</sup> has pointed out that the epidemiology of gonorrhea should be much simpler than that of syphilis. The incubation period of the one is a few days, while that of the other may be several weeks. With a fresh infection, a short incubation period of gonorrhea limits the number of persons to one or two who must be approached and examined as possible sources of infection. The confinement of infectious lesions of gonorrhea to the genitalia limits case finding to sex contacts, whereas, an extragenital

primary or secondary syphilitic lesion may demand the observation of several nonsexual as well as sexual contacts.

The importance of gonorrhea as a major public health problem was duly recognized by Health Commissioner Rice in planning the venereal disease control program in New York City. With reference to case finding, definite procedures were established whereby, like early syphilis cases each newly diagnosed case of gonorrhea reported to the Bureau of Social Hygiene is carefully investigated as to the possible source of infection and other contacts within and outside the household and family. Special efforts are directed toward the discovery of gonococcic infections in children. When an adult is found to have gonorrhea, search is made for infection of children in the home. When a child has gonorrhea, infection is sought in other members of the household and in closely associated school contacts.

Generally, cases of gonorrhea are investigated by public health nurses acting as nurse-epidemiologists or by trained male investigators. Special problems, however, such as outbreaks of gonorrhea in public and parochial schools, or in children's institutions and camps, as well as cases of ophthalmia neonatorum, are assigned to physician-epidemiologists for proper study and follow up.

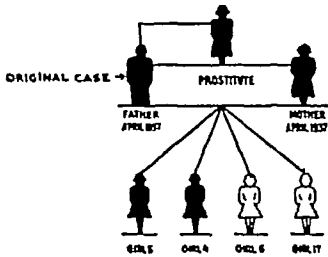
Each original patient is personally interviewed by an epidemiologist or social worker for the purpose of ascertaining the identity of the person from whom he may have contracted the disease, and the identity of the individuals to whom he may have transmitted his infection. In the case of children, they, as well as the parents, are very tactfully interviewed for the necessary information.

Home visits are made to induce the suspected source and other contacts to submit to examination, and to treatment if found infected. They are advised to go to a private physician, or referred to a hospital or the nearest Health Department treatment center, if unable to pay for private medical services. Tact, kind-



## CASE FINDING IN GONORRHEA

FOUR INFECTED IN FAMILY OF SIX MEMBERS

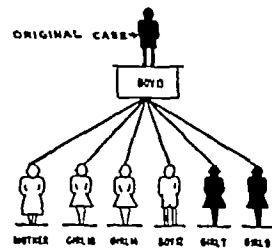


BLACK FIGURES • EXAMINED AND FOUND INFECTED  
 OUTLINED FIGURES • EXAMINED AND FOUND NEGATIVE  
 FROM N Y C DEPARTMENT OF HEALTH

FIG 1, Case 1

## CASE FINDING IN GONORRHEA

THREE CHILDREN IN ONE FAMILY INFECTED



BLACK FIGURES • EXAMINED AND FOUND INFECTED  
 OUTLINED FIGURES • EXAMINED AND FOUND NEGATIVE  
 FROM N Y C DEPARTMENT OF HEALTH

FIG 2, Case 2

ness, and a sympathetic attitude are essential in order to gain the confidence and cooperation of the patient and others concerned. By the use of persuasive methods it is usually possible to secure the desired information and to induce the contacts to submit to examination and treatment if needed.

The same procedures apply to all cases of gonorrhea in the course of epidemiologic investigation, whether referred by private physicians, Health Department clinics, municipal, and/or voluntary hospitals and clinics. In the follow-up of patients at the request of private physicians, nurses present themselves as coming from the doctor. Medical epidemiologists usually obtain the best results with both physicians and patients by representing themselves as agents of the Health Department.

Cases involving sex offenses against children are referred to the police authorities for investigation and action from the criminologic point of view. Search for suspected sources of infection and contacts is continued.

## Case Reports

The following case reports are offered as illustrations of the practicability of epidemiologic investigation of gonococcal infections in children in New York City.

**Case 1**—A colored man, 40 years of age, was admitted to a Health Department social hy-

giene clinic with a diagnosis of acute gonorrheal urethritis. He gave a history of two previous infections and stated that each time the symptoms of gonorrhea followed exposure to a clandestine prostitute. His wife was examined and was found to have a gonorrheal endocervicitis. Two of his daughters, aged 4 and 5 years, respectively, were found to be suffering from gonorrheal vaginitis. Two other girls in the family fortunately presented no evidence of infection on repeated examinations.

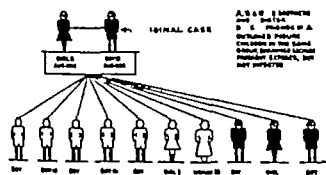
The father had apparently infected the mother, while two of the children had probably contracted the disease through indirect unhygienic contact with their infected parents.

**Case 2**—A 13-year-old white boy was admitted to the clinic because of a gonorrheal urethritis. He denied sexual intercourse, and the source of his infection could not be determined. About six weeks later, two of his sisters, aged 7 and 9 years, respectively, were brought under treatment for gonorrheal vaginitis. The mother, two older sisters aged 14 and 18 years, and a 12-year-old brother, were each carefully examined and found to be apparently free from infection. On careful inquiry, it was revealed that all the children in the household were sleeping together because of a shortage of bedding. It was, therefore, assumed that the infection in this case had probably spread from one child to another through the medium of bedclothes freshly soiled with gonorrheal discharges.

**Case 3**—A colored boy, aged 13 years, developed an acute gonorrheal urethritis following exposure to an 8-year-old school girl. The latter was examined and proved to have a gonorrheal vaginitis. A brother and sister of the boy, 9 and 12 years of age, respectively, were also found to be infected with gonorrhea. A

## CASE FINDING IN GONORRHEA

## OUT BREAK OF GONORRHEA IN A CHILD GROUP



BLACK FIGURES EXAMINED AND FOUND INFECTED  
OUTLINED FIGURES EXAMINED AND FOUND NEGATIVE  
FROM NYC DEPARTMENT OF HEALTH

FIG 3 Case 3

## CASE FINDING IN GONORRHEA &amp; SYPHILIS

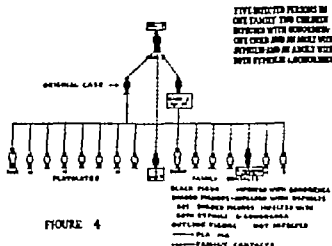


FIGURE 4

FIG 4 Case 4

22-year-old sister and her baby were negative. Six other children, varying in age from 8 to 14 years, dwelling in the same tenement house and attending the same public school were examined as suspected contacts. Five of them showed no signs of venereal disease the sixth one, a 12-year-old boy was found to have gonorrhea.

Case 4—A 13-year-old Porto Rican boy was found at one of the Health Department clinics to have an acute gonorrheal urethritis and was promptly sent to an isolation hospital. His symptoms were said to have developed during a short stay at a boys' camp. The counselor and eight of the boys with whom the boy had shared quarters were each carefully interviewed and examined. His brother, one of the campers was found to be infected and he too was hospitalized. Both of the boys persistently denied sexual relations either while at camp or at any time previously. Eight immediate family contacts and a playmate of the infected children were examined with the following results: the grand mother and a 17 year-old female child were found to have syphilis (strong positive blood Wassermann reactions) and they were placed under antiluetic treatment. The mother and the rest of the contacts named were repeatedly negative both for evidence of syphilis and gonorrhea. Further investigation revealed that a 22-year-old stepbrother had lived with the family up to the time the boys were sent to camp. He used the same toilet, bathtub towels, and bed as were used by them. He had been under treatment for early syphilis and gonorrhea, and his clinic records at the time of investigation showed that he was still infectious (urethral discharge with positive smear). In all probability he was the source of infection of the children at home.

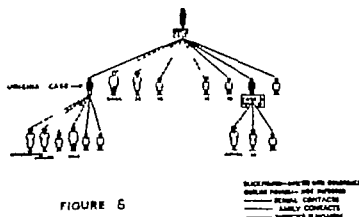
CASE FINDING IN GONORRHEA  
OUTBREAK IN A GROUP OF SCHOOL CHILDREN

FIGURE 5

FIG 5 Case 5

Case 5—A 12-year-old Porto Rican boy was brought by his mother to the clinic because of urethral discharge and painful micturition. A diagnosis of gonorrheal urethritis was made and the child sent to an isolation hospital. Four of his family contacts and two playmates were thoroughly examined and revealed no evidence of venereal disease. The boy admitted intercourse with an 11 year-old girl who subsequently was found to have gonorrheal vaginitis. She too was hospitalized because of improper facilities for home care. Her father and three sisters were examined and found not infected. In addition to the original patient, she named three other boys with whom she had had sexual relations. One of them was negative, another one could not be located because of insufficient identification, and a third a schoolmate, was found to have gonorrheal urethritis and placed under treatment. The mother a sister and a playmate of the latter boy were examined and showed no signs of infection.

Two of the above infected children lived in the same tenement house, and all three of them attended the same public school

## Summary

1 Gonorrhea in children is believed to be most prevalent among dwellers of overcrowded tenements under unsanitary conditions. Little girls are more frequently infected than boys.

2 The disease has a tendency to spread in localized outbreaks, especially among children in the same family. The source of infection is thus often traced to one or other member in the household, quite often an adult.

3 It is important to note that indirect spread of gonorrhea in children is apparently not strictly limited to little girls. Certain cases of gonorrhea in little boys are difficult to explain on any basis other than that due to contact with infected persons under overcrowded and unhygienic conditions at home.

4. Energetic efforts at case finding are successful in bringing to light new and unrecognized cases of gonorrhea. Any program for control of gonorrhea must employ such direct methods of epidemiologic investigations to ensure effectiveness.

125 Worth Street

## References

- 1 Report of an Advisory Committee to the United States Public Health Service. Ven. Dis Inform, 19 No 1, 1-5 (Jan), 1938.
- 2 Report of the Advisory Council of the Milbank Memorial Fund. New York Academy of Medicine Ven Dis Inform, 19 No 7, 214-220 (July), 1938.
- 3 Atkinson, I E. Am. J. Med. Sc., 75 444 (1878).
- 4 Wehrbein, Kathleen. Arch. Pediat., 44 No 4, 243-285 (April), 1927.
- 5 Vonderlehr, R. A., and Usilton, L. J. J. A. M. A., 59 No 18, 1425-1427 (1937).
- 6 Clarke, Charles Walter. Prevent. Med., p 10 (March), 1937.
- 7 Berens, Conrad. Arch. Pediat., 55 No 10, 639-650 (Oct.), 1938.
- 8 Brunet, Walter M., Tolle, Dora M., Scudder, Sarah Alicia, and Metcalf, Anne Ruth. Cervico-Hosp Soc Serv., Supplement No 1 (March), 1933.
- 9 Nelson, N. A. p 115, Supplement No 3 to Venereal Disease Information, United States Public Health Service, Government Printing Office, Washington, D. C., 1937.

## ANNUAL SCIENTIFIC ASSEMBLY

"The eyes of the medical world are on Washington," according to an announcement from the Medical Society of the District of Columbia, which states that the Annual Scientific Assembly will be held April 25, 26, and 27, in the Mayflower Hotel in Washington.

Gastroenterology in all its phases will be the subject covered in the three-day postgraduate course, offering about fifty-two papers, panels, and round tables on the subject. The program lists, in addition to many prominent physicians of the faculties in Washington, the following from elsewhere: Dr. Lewellys F. Barker, Baltimore; Dr. Fred W. Rankin, Lexington, Kentucky; Dr. L. M. Hurxthal of the Lahey Clinic, Boston; Dr. R. J. Coffey, formerly of the Mayo Clinic; Dr. B. B. Vincent Lyon, Philadelphia; Dr. E. H. Gaither, Baltimore; Dr. P. P. Vinson, Richmond; Dr. Eloise B. Cram, National Health Institute.

Luncheons, stag meeting, banquet, and entertainment for visiting wives are provided by the Society.

Reservations are being taken by Theodore Wiprud, Secretary of the Society, 1718 M St., N. W., who will forward full information on request.

## "DEATH AND TAXES"

An old adage has been upset. We used to speak of the certainty of "death and taxes," and perhaps remarked sagely that we could reduce taxes, but couldn't check death. Well, says the *Washington Review*, "just the opposite is happening." Here are the facts.

In 1900 our national tax rate—the ratio of taxes to national income—was 8 per cent. Now it is more than 22 per cent.

Meanwhile, our death rate has gone down from 17.6 persons to 1,000 of population in 1900 to 11.2 persons today.

The burden of taxation is nearly three times as high as it was a generation ago. The death rate is one third less. In other words, we have accomplished the impossible while failing to do the possible.

Unless the national income shall spurt upward soon, taxes in the United States will be higher, much higher than they now are, for government is continuing to spend far more than it collects. Even social security tax collections are covered into the federal treasury and paid out for current disbursements.

The medical profession has greatly improved the death rate, while the political profession has discarded the natural laws on wealth.

# DELAYED PHOTSENSITIZATION OF THE SKIN DUE TO SULFANILAMIDE

## A Case Report

WILLIAM VERNON WAX, M D , Catskill, New York

MUCH literature has been written recently on the use of sulfanilamide. Because of the relative newness of this drug little has appeared in the literature as to the possible toxic and other deleterious reactions

I wish to report a very striking case of *delayed* photosensitization of the skin due to sulfanilamide therapy. Newman and Sharlit<sup>1</sup> and Brunsting<sup>2</sup> independently report that sulfanilamide may contribute toward photosensitization of the skin in certain individuals. They report that the skin eruptions may develop upon exposure to sunlight. The rash disappears from two to six days after withdrawal of sulfanilamide, according to these reports. This was reported in 1937. The literature does not disclose any other cases to date. The case in question is that of an unusual *delayed* photosensitization of the skin. Therapy with sulfanilamide was started on November 15, 1936, and the reaction of photosensitivity of the skin did not occur until *three months* after the drug was discontinued. Furthermore after *twenty months* the rash is still present.

This patient, G S, is an adult white male, age 38, well developed, well nourished, who was admitted to the Memorial Hospital of Greene County following a serious automobile accident in which he sustained a compound fracture of the left femur on September 13, 1936. He developed a severe streptococcus hemolyticus osteomyelitis. Sulfanilamide, both in solution for injection, and by mouth in tablet form, was used to combat the infection with an apparent good result. Due to a general debilitated condition, following the severe injury described, sunshine and an artificial sun lamp were a part of the therapy used after the drug

was discontinued. In the accompanying photograph, it should be noted that a large area of the photosensitization of the skin which is a deep brown, is also on the nonaffected leg and covers an even wider area than on the affected side. The areas on the previously fractured leg occasionally break down and form deep skin ulcers. These ulcers are difficult to heal, but in healing, the pigmented regions remain the same. The photograph was taken on July 20, 1938, twenty months after photosensitization was



Photograph showing areas of photosensitization of the skin due to sulfanilamide. Note sharp line of demarcation on right leg where stocking protected skin.

noted, and twenty-three months after the drug was withdrawn

### Conclusions

1 Photosensitization of the skin due to sulfanilamide is a relatively rare occurrence, but should be carefully guarded against because of the increased use of this drug

2 The case reported is unusual because it illustrates *delayed* photosensitivity of the skin brought on many months after therapy was started and discontinued, due to exposure to sunlight and artificial sunlight

3 These photosensitized areas are

large deep dark brown patches, apparently fixed in the skin, with a sharp line of demarcation, occurring *after* withdrawal of the sulfanilamide.

4 These areas may break down and form troublesome ulcers

5 Patients taking sulfanilamide should be strictly warned against exposing themselves to sunlight or artificial sunlight during or after the taking of sulfanilamide

### References

- 1 Newman and Sharlit J A.M.A., 109 1036 (1937)
- 2 Brunsting Proc. Staff Meet. Mayo Clinic, 12 614 (Sept 29), 1937

---

## HOW STATE MEDICINE LOOKS ON THE SPOT

A Nebraska physician, Dr A L Miller, recently visited some of the lands of Europe that have state medicine and discovered a few facts on the spot. He said, in an address before the Wyoming State Medical Society

"I have viewed state medicine in England, Germany, and Hungary. I know that in those countries, the initiative, as far as the doctor is concerned, is gone. The patient is merely treated as a number, a cog in a vast machine. Some of the poorest work in surgery I observed in Munich, once the center of the best in medical technic, and also in Budapest, where due to the lack of material and the hope of progressing, surgical and medical care is indeed on a low scale. The doctors in Budapest, Hungary, told me that they were getting about 49 cents for a call in town. They might have to make eight or ten

calls on this patient, but the limit that they could be paid for was three calls. Dr Lund told me that he was getting about \$30 a month in our money, and the doctor had completed a fellowship in the Rockefeller Institute in New York City and is the head of the neurosurgical department in one of the clinics in Budapest. The chief surgeon was getting the magnificent sum of about \$70 a month in our money and he spent all of his time doing surgery. When I visited with him he threw up his hands in despair and remarked 'Doctor, we medical men in Austria and Hungary have no future. We have nothing to live for. We are just a cog in the machinery of the state.' Truly, gentlemen, this type of state medicine means a lower grade of medicine than we have in the United States where men act as individuals, doing the thing they feel is right for their patients."

---

## OPENING FOR INTERNS

The California State Personnel Board is anxious to recruit the best qualified persons for student intern and senior intern for service in a state mental hospital. The salaries are \$50 a month and maintenance for the senior intern, and \$25 and maintenance for the junior.

There is no residence requirement for these examinations and no written test will be given. Applicants will be rated on education, experience,

and appraisal of scholastic record. Applications may be filed at any time during 1939 and will be rated immediately.

If a candidate's qualifications, after investigation, are acceptable, his name will be placed on the list of those eligible for employment in accordance with his rating.

For information, address L J Kroeger, State Personnel Board, Sacramento, California.

# SUMMARY OF REPORT OF THE NEW YORK STATE LEGISLATIVE CANCER SURVEY COMMISSION

MORTON L. LEVIN, M D , Buffalo, and RUSSELL S FERGUSON, M D ,  
New York City

*(Associate Director and Director Respectively of Survey)*

THE New York State Legislative Cancer Survey Commission was created by Chapter 718 of the Laws of 1937, which directs that the commission "make a comprehensive study and survey of the existing facilities, public and private, in this state, for the study and treatment and the prevention or amelioration of cancer and for care of persons afflicted or threatened therewith, the prevalence of such disease within the state, and any other pertinent facts relating to cancer of which the governor and legislature should be informed for purposes of legislation, if needed, relative to the above matters."

Members of the commission were Frank A Gugino, chairman, member of Assembly, Dr James Ewing, vice-chairman, Memorial Hospital, New York City, Jacob J Schwartzwald, secretary, member of Senate, Dr Floyd S Winslow, ex president, New York State Medical Society, Dr Edward S Godfrey, Jr, State Health Commissioner, Frederic H Bontecou, member of Senate, William J Murray, member of Senate, Nicholas A Rossi, member of Assembly, Harry R Marble, member of Assembly

The commission appointed, as a sub-committee on survey Dr Russell S Ferguson, Dr Morton L Levin, and Arthur H. Estabrook, Ph.D , and designated as medical associates, Dr J Sutton Regan, Dr Samuel Varco, and Dr Karl F Eschelman. A preliminary survey was begun in November, 1937, and a Preliminary Report presented on March 7, 1938. At the 1938 session of the legislature, the commission was continued by Chapter 506, Laws of 1938. The commission was reorganized in May, 1938, and a Final Report rendered to the legislature and the governor on February 15, 1939.

The report of the commission consists of material regarding (a) the general principles of cancer control, (b) cancer mortality, (c) cancer incidence, (d) undergraduate and postgraduate professional education, (e) hospital facilities relating to cancer, (f) hospital admissions for cancer (for the year 1936), (g) facilities for tissue diagnosis, (h) facilities for roentgen ray diagnosis, (i) facilities for deep x ray treatment, (j) facilities for radium treatment, (k) tumor clinics, (l) facilities for terminal care of cancer patients, (m) social service and follow-up of cancer patients, (n) public education in cancer control, (o) cancer control programs in other states, (p) recommendations, and (q) proposed legislation.

A brief summary of salient features of the report is here offered, omitting detailed tables and other data which will be available when the report is published.

## General Principles of Cancer Control

Cancer control may be defined as comprising all efforts to obtain maximum application of existing knowledge regarding prevention, diagnosis and treatment of cancer. Efforts to supplement individual resources of patients and physicians in attaining this end through some form of organized communitywide program constitute public health measures, whether carried on by voluntary or official agencies. The generally accepted view that control of cancer requires, for various reasons, an organized communitywide program to supplement individual resources makes cancer a public health problem. Aspects of the cancer problem supporting this view are (a) the usually mild mode of onset, calling for special efforts to induce patients to seek medical care early, (b) the difficulty of early

diagnosis, often necessitating special facilities not generally available, (c) the specialized character of treatment, both radiologic and surgical—requiring in many communities personnel and equipment to supplement existing facilities, and (d) the high cost of treatment, making aid to the low-income group necessary, this necessity enhanced by the fact that the low-income group apparently suffers a higher mortality from cancer than does the rest of the population

The basic argument for the probable effectiveness of a cancer control program rests on the relatively higher cure-rate attainable in cases treated adequately before metastasis has occurred. The four-year cure-rate in cancer of various sites among patients admitted to the State Institute at Buffalo in 1932–1933 was for Group I (early) cases 46.5 per cent, and for all others 16.6 per cent (adjusted to the same site-distribution). Applying the rates in the two groups to the yearly incidence of cancer of various sites as determined by incidence survey reduces these cure-rates to 40.9 per cent for Group I cases and 12.2 per cent for all others. On the same basis the average cure-rate now obtained, as determined by study of over 8,000 cases admitted to various hospitals in this state in 1932 and 1933, is 18.6 per cent. The difference between this figure and 40.9 per cent applied to the number of deaths from cancer in this state in 1937, represents a possible salvage of 2,500 lives per year.

It is only fair to point out that even if all patients sought medical care immediately after the onset of symptoms, they would not all be found to have early lesions. Other factors are of importance here, particularly the type of cancer concerned, since some forms of cancer metastasize early, while others do not, and some forms rarely metastasize at any time. However, it is certain that more prompt action on the part of the patient would greatly increase the proportion of cases treated at an early stage.

Detection of early cancer before symptoms develop, by means of periodic physi-

cal examinations, is a principle of cancer control which receives much discussion, but little application. Its practical value has yet to be tested adequately and at present its place in the cancer control program is not well defined. It would be highly desirable to have the various county medical societies organize local demonstrations of the value of periodic examinations, not only in cancer control, but as a general health measure.

Knowledge regarding specific carcinogenic agents cannot as yet be applied to the prevention of human cancer, except cancer of occupational origin. Although there are in this country some 238 different occupations involving potential exposure to possible carcinogenic agents (radium rays, x-rays, ultra-violet rays, arsenic, anilin, extreme heat, petroleum, and tar), the number of occupational cancers reported is negligible. The long period between time of exposure and onset of cancer, which often occurs after employment has ceased, may in part account for this.

Other factors in the causal genesis of cancer which have possible application in prevention are (a) in skin cancer overexposure to sunlight, skin tuberculosis, (b) in mouth cancer syphilis, use of tobacco, poor oral hygiene, (c) in breast cancer chronic mastitis, failure to nurse, duct-blockage, (d) in uterine cancer repeated pregnancies, cervical lacerations. These causal factors, not all equally well substantiated, are at present of importance chiefly in directing attention to persons most exposed to risk of developing cancer. The same may be said of the available data regarding heredity in human cancer which would indicate that certain families are predisposed to cancer of particular organs or tissues. Of similar import is the excess mortality found, among males in the unskilled worker class, from cancer of certain sites (skin, larynx, mouth, esophagus, stomach), to which fact the higher mortality observed among urban populations and among the foreign-born is perhaps related. All of these clues to the epidemiology of cancer are of significance.

chiefly as indicators of where cancer control measures can best be applied. These measures are still directed for the most part toward early detection and adequate treatment, rather than prevention, of cancer

### Cancer Mortality in New York State

The upward trend of the crude death rate from cancer (all forms) in New York State has followed that of the original registration area quite closely. From 1900 to 1936 the death rate in New York State more than doubled (increase 115 per cent) and the number of deaths almost quadrupled (increase, 294 per cent). The increase has not been uniform for all sites of cancer, the death rate from cancer of the skin and buccal cavity has not increased during the past fifteen years.

Approximately 30 per cent of the observed increase in death rate from cancer of all forms can be accounted for on the basis of increased population in the older age groups, the remainder is associated with increased death rates among these age groups. The extent to which this increase is attributable to improved diagnosis remains debatable. It seems highly doubtful that all of the increase can be accounted for in this way. If age-specific death rates remain at their present level, the number of deaths from cancer, in this state will have increased in 1960 by 50 per cent. If in addition age specific rates continued to increase, the increase in number of deaths will be approximately 122 per cent.

When adjusted for age, the death rate from cancer among females shows, for recent years, a downward trend in Massachusetts and in the experience among industrial policyholders (Metropolitan Life Insurance Company), but not in New York City or the rest of New York State. However, the accuracy of these age adjusted rates, based on estimated population by age, must remain in doubt until the next census is taken. In this connection it should be stressed that the magnitude of cancer as a cause of death is probably understated rather than over

stated by mortality statistics, since numerous autopsy studies show that more cancer is missed than is diagnosed erroneously.

### Incidence of Cancer

The commission first conducted an incidence survey of cancer in six counties (Steuben, Monroe, Franklin, Nassau, Otsego, and Ulster) by questionnaire to physicians, asking for initials, age, sex, residence, and diagnosis of all cancer patients under care during a year (July 1, 1936 to June 30, 1937). Eight hundred and fifty-one physicians (out of 1,240) reported 2,183 resident cases. Assuming that the physicians who did not report had a proportionate number of cases, this would give 3,178 cases, or slightly under 2 cases alive during the year for each of the 1,544 resident deaths from cancer which occurred in these counties during the same period. In a second survey, undertaken in Dutchess County, it was possible to obtain a higher percentage of returns from physicians (88.9 per cent) and, in addition, information on cases from hospital records and pathologic laboratory records, as well as death certificates. From the latter 3 sources were obtained 31.8 per cent of all reports not otherwise reported by physicians. In this survey, the indicated number of cancer cases was 463 (for the calendar year 1937), or slightly more than 3 for each of the 153 resident deaths. This represents a yearly incidence of 450 cases per 100,000 population. This figure is undoubtedly minimal, since in most cases there is considerable delay before diagnosis is established and thus possibly a third of the cases may not be known at the end of the year.

### Hospital Admissions for Cancer in 1936

Information on hospital admissions, x-ray facilities, radium facilities, and other pertinent data was obtained by questionnaires sent to 400 hospitals and related institutions considered of significance in the care of cancer. Returns were received from 256 of these institutions (62.6 per cent), having 78.6 per



cent of the bed capacity\* of the total 409 institutions. However, some of the returned questionnaires were not complete, so that information regarding any one item is based on a somewhat smaller number of hospitals.

Two hundred and twenty-six hospitals and related institutions (44,913 bed capacity) reported 26,439 admissions for cancer in 1936, or 2.9 per cent of all admissions (907,350). Of admissions to general hospitals, 2.2 per cent were for cancer. Of all hospital deaths reported, 13.4 per cent were from cancer, of deaths in general hospitals, 10.7 per cent were from cancer. The number of cancer deaths was 25.5 per cent of the number of cancer admissions reported. Autopsies were reported in 30.7 per cent of cancer deaths, as compared with 27.4 per cent of all other deaths.

Excluding admissions to cancer homes, homes for incurables, and similar institutions, there were approximately 30,000 hospital admissions for cancer in 1936, 19,000 to New York City hospitals, 11,000 to upstate hospitals, 78.5 per cent of these admissions were to general hospitals, 19.6 per cent to the four special cancer hospitals in New York City and Buffalo. Data from a questionnaire addressed to physicians who signed death certificates of over 10,000 cancer deaths indicate that approximately 73 per cent of all cancer cases enter a hospital at some time during their illness. Similar data from the incidence survey in Dutchess County give 70 per cent hospitalization. In New York City 55 per cent of all cases enter a hospital *during the year*, in the rest of the state, 38 per cent.

Of 6,965 cancer admissions reported by 93 general voluntary hospitals, 55 per cent were classed as "full pay" and stayed an average of 16.2 days, 45 per cent were classed as "not full pay" and stayed an average of 21.7 days. Data from upstate general hospitals showed that for each "not full pay" cancer patient, the hospital incurred a deficit of \$1.24 per hospital day's stay, and that

outside agencies (city, county, town, community chest, old-age relief, etc.) paid \$2.32 per hospital day, in addition to the amount paid in by the patient. On this basis, it is estimated that the hospital care of "not full pay" cancer patients in upstate New York now costs general hospitals and relief and welfare agencies \$342,000 a year.

### Hospital Facilities for Diagnosis and Treatment of Cancer

Facilities for x-ray diagnosis were reported as adequate by over 80 per cent of the hospitals reporting. Facilities for embedded tissue and frozen section tissue diagnosis were reported available by 87.7 per cent of the hospitals reporting. However, of 67 hospitals which reported on the number of tissue specimens diagnosed malignant tumor, 1 out of 3 were not approved for surgical pathology (in upstate New York). There are facilities for deep x-ray treatment in 51 New York City hospitals and in 42 upstate hospitals. Eleven upstate hospitals and 22 New York City hospitals own varying amounts of radium, but only 3 upstate hospitals and 15 New York City hospitals own as much as 200 milligrams of radium. In upstate New York, 44 per cent of all reported cancer admissions† were to hospitals which had no facilities for deep x-ray treatment, owned no radium, and had no physician on the staff who owned radium. In New York City 32.2 per cent of the admissions were to hospitals lacking deep x-ray treatment facilities and only 13.5 per cent to hospitals not owning radium.

### Radium and X-Ray Therapy Facilities in Physicians' Offices

The total amount of radium owned by hospitals, other institutions, and physicians in the state is 43,844 grams,‡ of which 31,658 grams are in New York City and 12,186 grams in the rest of the

† Based on 19,914 cancer admissions to 214 general hospitals (84 New York City hospitals, 130 upstate hospitals).

‡ Based on data received from hospitals, radiologists, and commercial companies selling x-ray machines and radium. Does not include radium owned by commercial companies.

\* Exclusive of bassinets.

state. In New York City there are 20 units of radium in amounts of 200 milligrams or over (hospitals and physicians), in the rest of the state, only 4 such units. Sixty three physicians in New York City own 5 138 grams of radium, in all but 4 instances the amount owned being considerably less than 200 milligrams. In the rest of the state, 39 physicians own a total of 2 935 grams, in all but 2 instances the amount owned being less than 200 milligrams. X ray machines used for deep therapy (180 kv or over) are available in 94 physicians' offices (98 machines) in New York City, in 31 physicians' offices (32 machines) in the rest of the state. For the most part, both radium and deep x ray therapy facilities are concentrated in the larger urban centers, but many of these lack sufficient radium. As a partial measure of distribution of skilled personnel, there are 111 physicians who are diplomates of the American Board of Radiology accredited for x ray therapy, radium therapy, or both, in New York City and 38 such physicians in the rest of the state (as of January 1, 1939). The amount of radium available in upstate New York is obviously inadequate to meet the local needs in most sections of the state, the number of x ray machines would possibly be adequate were they properly distributed and if no economic barriers to maximum utilization existed.

#### Terminal Care of Cancer Patients

The care of the cancer patient during the terminal stages of illness, which usually means a period of three months but often is six months to a year or more presents a difficult problem. These patients require much attention and often could be made more comfortable by special radiation or surgical therapy, yet their care is in many instances neglected. By the time the cancer patient reaches this stage of the disease, his financial resources are usually exhausted, while facilities for free hospital care of such patients are difficult to secure. Most general hospitals will not tie up a free bed for a terminal cancer patient. In

New York City there are approximately 530 beds in various institutions available for the terminal care of indigent cancer patients. There is usually a waiting list of about 150 patients for admission to these beds. Outside of New York City there is but one institution, of 115 beds, specifically designated for the care of indigent terminal cancer patients. In 1936, 104\* cancer patients in upstate New York, died in some county, city, or town public home—institutions in adequately equipped to care properly for such cases. In New York City 58.6 per cent of all cancer deaths occur in a hospital or related institutions, in other cities of 100,000 population or over, the figure is 41.4 per cent, while in the rural areas, the figure is 29.0 per cent.†

The commission has recommended that aid to the terminal cancer patient take the form of extension of facilities for home nursing care and has suggested that local communities make the provision of such care a part of their general public health nursing program. Such a plan would enable the terminal cancer patient to remain under the care of his or her family physician and considerably reduce the need for hospitalization of these patients.

#### Public Education and Cancer Control

Public education in cancer has been carried on in this state by the Division of Cancer Control of the New York State Department of Health, by the American Society for the Control of Cancer, the New York City Cancer Committee, and by various county medical societies. From 1933 to 1937, inclusive, all agencies in upstate New York reached, through public lectures, approximately 68 000 persons, whereas the Massachusetts cancer educational program is estimated to reach 100,000 persons in a single year. The method pursued in Massachusetts is that of concentrating effort on having public education done in each locality by local physicians. This achieves the

\* Data from 31 county, city and town public homes.

† Data from 10,330 cancer deaths during six months ending June 1937.

double effect of reaching many more people than can be done through the individual efforts of a few full-time workers and at the same time stimulates the interest and encourages postgraduate education of the physicians themselves. The commission accordingly has recommended that the Division of Cancer Control endeavor to stimulate and encourage the medical profession to carry on public education in cancer and that the services and experience of the Division of Cancer Control be placed at the disposal of the medical profession to this end.

### Tumor Clinics

In view of the great importance of early diagnosis in cancer and the key position of the general practitioner who first sees the average patient with symptoms which may mean cancer, the commission recommends that "for the present the guiding principle of cancer control in New York State be that of improving local diagnostic and treatment facilities by establishing tumor clinics and through the utilization of already existing hospital facilities."

The standards for tumor clinics set by the American College of Surgeons represent the minimum required for satisfactory service to cancer patients. Although adequate facilities may exist in the absence of an approved clinic, it is nevertheless true that where such facilities exist, the hospital concerned usually seeks and obtains the stamp of approval of the American College of Surgeons.

At present there are in New York State 49 tumor clinics, of which 23 are in New York City and 26 in the rest of the state. Of these 49 clinics, 24 are sufficiently well equipped and organized to be fully approved (for diagnosis and therapy) by the American College of Surgeons. Thirteen of these fully approved clinics are in New York City, 3 in Westchester County, 1 in Nassau County, and 7 in five communities in the rest of the state (Buffalo, Rochester,

Syracuse, Albany, and Cornwall). There are 4 clinics approved for diagnosis only in three other communities (Watertown, Middletown, and Bay Shore).

A study of the records of 5 tumor clinics in this state indicates that the majority of patients come from within a radius of 25 miles from the clinic. Even on the assumption that a radius of 50 miles represents the area served, it appears that either all or the bulk of the population of 15 counties is now located more than 50 miles from a fully approved tumor clinic. These counties are St. Lawrence, Franklin, Clinton, Essex, Hamilton, Warren, Herkimer, Otsego, Broome, Tioga, Chemung, Schuyler, Steuben, Delaware, and Alleghany.

It is expected that organization of new clinics, or improvement of facilities in already existing clinics, will be undertaken as a cooperative effort of the hospitals, the county medical societies, and the Division of Cancer Control. The amount and kind of assistance to be furnished tumor clinics by the Division of Cancer Control would depend, of course, on the resources available. The experience gained by the commission in organizing two clinics in Dutchess and Suffolk counties and in discussing the question with hospital staffs elsewhere indicates that probably the most useful and welcome form of assistance would consist in furnishing, for varying periods, the services of consultants, to act in an advisory capacity in the organization and functioning of the clinics. The Massachusetts cancer program, now in operation for twelve years, provides consultants for the purpose of holding teaching sessions of clinics and provides other aid in the form of clerical services, record forms, services of a part-time social worker, and payment for diagnostic x-rays in the case of (medically) indigent patients. Varying local needs and conditions in this state will call for different forms of aid, the paramount aim being in every case to develop local facilities, to stimulate the interest of practicing physicians in the early diagnosis of cancer, and to make

expert treatment available through the maximum utilization of the resources at hand.

### Reporting of Cancer

Information regarding the incidence of cancer in the population at large over a period of years would make it possible to verify or disprove many of the apparent facts regarding cancer, some of great practical importance, which appear from analysis of death records. Death records are unsatisfactory for many purposes since their accuracy is uncertain and the case fatality of different forms of cancer varies widely. Whether cancer incidence is actually increasing or simply being diagnosed more accurately, whether the increase is confined to some forms of cancer and differs in extent among these forms as mortality statistics would indicate, whether the observed differences in mortality in the two sexes, in married women as compared with single women, in males of different social status, in urban as compared with rural populations, are real or only apparent, are questions of more than academic interest. The indicated facts, if substantiated, have important implications as indicating where cancer control measures need to be applied and in what directions investigations of human cancer should proceed. A comparatively simple reporting form of current cases as they come under observation would furnish a large volume of material in which the reliable data could be separated from the less reliable. With the exception of a few large hospitals and laboratories (where special provision will need to be made) the amount of labor entailed in current reporting would be small. The average physician sees fewer than 10 cases a year, probably less, the average hospital admits less than 20 patients with cancer each month. The great majority of pathologic laboratories receive less than 300 tissue specimens of cancer a

year, or less than 1 a day. Reports from all of these sources would furnish information not obtainable from any one alone and lead to increased accuracy of the data. The experience of the commission in making incidence surveys in 7 counties indicates that the profession is not unaware of the value of cancer reporting and is quite willing to undertake it. The Council of the State Medical Society has officially approved the measure.

The commission has accordingly recommended that cancer be made reportable in this state, as it already is in several other states.

### Legislation

The proposed Cancer Control bill specifies that cases of cancer be reported by physicians, hospitals, and laboratories, and provides for an appropriation of \$50,000 to the Division of Cancer Control for the purpose of carrying out the recommendations of the commission regarding the cancer control program in this state. In proportion to the population of the state, the sum named is considerably less than that expended in other states for similar purposes. (The appropriation in 1937 for the Division of Cancer and Other Chronic Diseases of the Massachusetts Department of Health was \$97,502, exclusive of the appropriation for the State Cancer Hospitals at Pondville and Westfield.) Compared also to the cost of building and equipping one or two additional state cancer institutes the sum named for the Division of Cancer Control is quite small. Nevertheless, the facts gathered by the commission indicate that a program such as that planned for the Division of Cancer Control, directed toward improved local facilities rather than increased centralized facilities and stimulation of post graduate education of physicians, is the most important need and offers the greatest hope of effective control of cancer.

---

A lecturer tells us that prehistoric men were never bow legged nor round-shouldered. Still

we would rather be bow-legged than prehistoric.—*Montreal Star*

# Public Health Notes

J ROSSLYN EARP, L R C P , Dr.P H  
New York State Department of Health

## Oral Hygiene

OUR State Health Department is one of the few that employs a dentist on its staff Dr David B Ast, who was formerly instructor in periodontia at the New York University College of Dentistry, is now working in the Division of Maternity, Infancy, and Child Hygiene Although his immediate preoccupation is with the expectant mother and the child of pre-school age he is fully conscious of the relationship of his work to that of other divisions He draws my attention to an article by Dr James Ewing\* which teaches us that "the patient coming in with an early diagnosis of cancer all too often fails completely of a cure any plan of successfully meeting the problem of cancer control must lean heavily upon cancer prevention"

"Badly decayed teeth with projecting, jagged edges against which the tongue and mucous membrane of the cheek and lip are constantly rubbing, must act as chronic irritants," says Dr Ast.

"Pyorrhea from the standpoint of being a chronic focus of infection and also due to the irritating influence of mobile teeth, may be responsible for neoplasms, especially in the floor of the mouth

"Malocclusion due to habits such as thumb sucking, lip biting, resting cheek on hand, etc produces an irregularity of the teeth whereby projecting cusps and food impaction areas may act as extrinsic irritating factors

"Failure to replace missing teeth permits a shifting of the remaining teeth, which likewise produces malocclusion and food impaction areas

"Faultily constructed dental restora-

tions, particularly of the partial and full denture type, come under the heading of extrinsic irritating factors and are in some mouths contributing factors in the etiology of cancer With ill-fitting dentures which are continually bobbing up and down in the mouth, we have the irritating influence of the denture rubbing against the mucous membrane of the palate, lip, cheek, and gingiva of the supporting teeth Also we must contend with the excessive pressures exerted in certain areas"

Dr Ast warns against the continued use of escharotics, particularly silver nitrate, for the treatment of soft tissue lesions, and gives Dr. Solomon† as authority for the danger of this practice

Dr Ast works in cooperation with the county dental societies Some subsidy is available for the treatment of indigent patients in the dentists' own offices Preventive dentistry of the pre-school child is combined with a program of professional postgraduate education With its present staff the department does not expect to abolish all dental defects in the state, but in the groups of expectant mothers and pre-school children it may be possible to prevent gross rampant caries with resulting loss of many teeth, shifting and malposition of remaining teeth, and finally artificial dentures The latter will remain a cancer hazard so long as wearers fail to realize that once fitted they are not permanently adapted to the mouth but must be occasionally readapted to the changing alveoli

Undoubtedly the medical profession can do much to ensure the success of this campaign by urging upon their patients the value of preventive dentistry to the health of the individual

\* Ewing, James Prevention of Cancer, Surg, Gynec., and Obst., 44. 164-184 (1927)

† Solomon, H Oral Hygiene in Cancer Control, Clin. Med and Surg, 41 275-277 (1934)

## Which Ought Not To Be Spoken Abroad

IT is perhaps unusual for a public health man to be asking his colleagues in private practice to respect the confidential relationship between physician and patient but this is what I must do. For once, there is something which the State Department of Health does *not* want you to report. It is the result of the serologic test made in compliance with the prenatal examination law. This law requires that the test be made and that a statement be made on the birth certificate as to whether the test has been made, and if no test has been made, the reason therefor, but the law adds "*in no event shall the birth certificate state the result of the test*"

The State Department of Health must

observe the law and, therefore, when the result of the test is stated on the birth certificate, the Division of Vital Statistics is obliged to return the birth certificate to the doctor who signed it and request him to make out another certificate, omitting the result of the test. Dr DePorte tells me that it is not possible for him to erase or obliterate a statement on the certificate because this also would be a violation of the law. During January, the first month in which the law has required a statement to be made on the certificate, some fifty certificates have had to be returned to the doctors signing them on account of this excess information.

---

## BRITISH AIR RAID SHELTERS TOO FLIMSY

British doctors are protesting that the air raid shelters now being constructed are too shallow and too thinly covered. A letter from London to the *J.A.M.A.* reports that the present steel shelters might protect against the blast and fragments from shellbursts, but not against direct hits. Twenty-one London hospital physicians have sent a joint letter to the press pointing out that air raids would produce an enormous number of casualties. Great numbers of civilians would be killed or injured by the high explosive bombs disabled by the shock or concussion, or buried beneath fallen buildings in which the danger of fire would be considerable. The morale of even highly trained troops cannot be maintained against continuous bombardment

without adequate protection. How can women and children be expected to endure similar trials? British physicians probably could not cope with the number of casualties under the present conditions. The signatories hold that fully efficient medical and surgical treatment cannot be given unless adequate bomb-proof shelters are provided for those who cannot be promptly evacuated from danger areas. These shelters must be deep enough to prevent penetration and sufficiently numerous to be quickly reached. They could be constructed beneath buildings as well as under squares and open spaces. Some should be designed for medical purposes, as the hospitals may be so damaged as no longer to provide facilities for the treatment of casualties.

---

## ARS LONGA VITA BREVIS

The practicing physician is not a scientist. He is, if he really practices medicine more, far more, than a scientist. He is an artist. He does not deal with the controlled and limited matters of the laboratory, he deals with human beings. So long as the human mind in its full ramifications remains beyond an evaluation with

scientific precision then the practice of medicine must remain an art.

So long as medical practice involves the personal contact of physician and patient then it is the art of the physician which must establish the necessary bond

—Howard W. Haggard

# The Woman's Auxiliary

To the Medical Society of the State of New York

**T**IME marches on And it brings closer to hand our Fourth Annual Convention to be held in Syracuse, April 24-26, in conjunction with the Annual Meeting of the Medical Society of the State of New York Let us try to have a record attendance this year Why not plan to attend with your friends and show your interest in your auxiliary and demonstrate your support of its activities?

Many enjoyable events have been planned, and from indications a grand time is assured all who attend Our Hobby Show will again be a great attraction Auxiliary members and their friends will exhibit many interesting and unusual things If you missed seeing our Hobby Show last year, you have a treat in store Our president, Mrs Daniel Swan, will be happy to welcome all doctors' wives and we are looking forward to the best convention we have ever had

*Convention Headquarters, Onondaga Hotel,  
Syracuse*

*April 24, 25, 26, 1939*

## County News

### Kings

Mrs Milton Bergmann presided at the meeting of the Woman's Auxiliary to the Medical Society of the County of Kings held at the County Society Building on February 28 Dr Frederick E Elliott, the guest speaker, gave an interesting talk on medical legislation This was followed by a paper on "The History of Medicine in Brooklyn" written by Mrs Dimon Fruchs Mrs Valentine Bourke was hostess at the tea which followed

### Onondaga

A meeting of the Woman's Auxiliary to the Medical Society of the County of Onondaga was held on March 7 at the Crouse-Irving Hospital Mrs Dwight

Needham, chairman of legislation, was in charge of the meeting and had invited Dr John J Buettner to address the members Mrs Samuel Stewart, chairman of hostesses, arranged a delightful social hour following the business session

### Queens

A meeting of the Woman's Auxiliary to the Medical Society of the County of Queens was held on February 28 Mrs Miller Sanders, first vice-president, presided in the absence of Mrs Lavelle who was ill The guest speaker, Mr Dwight Anderson, Director of the Public Relations Bureau of the Medical Society of the State of New York, explained the difference between the Voluntary Medical Indemnity Expense Insurance and Compulsory Health Insurance He showed how important an auxiliary can be in acting as a liaison between the medical profession and lay organizations and how valuable an auxiliary is to its medical society

A resolution was passed creating the Carl Boettiger Memorial Book Fund in honor of the late Dr Boettiger who had organized and directed the library of the Medical Society

### Schenectady

A meeting of the Woman's Auxiliary to the Medical Society of the County of Schenectady was held on February 28, in the auditorium of Sunnyview Hospital Mrs Herman Galster, chairman of program, introduced Miss Laura Lorensen of New York, writer and lecturer on decorative arts Miss Lorensen gave a stereopticon lecture in full color on "The Romance of Pottery in Every Time and Every Clime" In her story of pottery and porcelain Miss Lorensen included symbolism, folklore, mythology, people, places, and events from which the romance of this art has been woven.

# Medical News

## General

OF INTEREST and import to all members of the State Society are two paragraphs in the annual report of the Special Committee on Illegal Practice of Medicine of the Medical Society of the County of New York. After paying tribute to "the efficiency of the Attorney General and of the State Education Department in their enforcement of the Education Law," the committee proceeds to say

"It seems to the committee, however, that although the laws against illegal practice, as they stand now, are adequate in every way, and despite the efficiency and zeal of the Attorney General and of the State Education Department, the Court of Special Sessions is not in entire sympathy with the aims and purposes of the medical profession in its efforts to protect the public against illegal practitioners. This statement by your committee is based on the fact that during the year 1937 there were fifty individuals convicted in the Court of Special Sessions for violations of the Education Law, as it applies to medicine. (See Attorney General's report, 1937, pp 2-16) Of these fifty, eighteen were sentenced to prison for terms varying from thirty days to one year, which they served, one of these was fined \$500 or thirty days in the workhouse, and one \$200 or sixty days in the workhouse, both of them served their respective prison sentences. Of the remaining thirty two, *sentence was suspended altogether in three*, one of these being a third offender, two were given a two months' prison sentence, *with execution of sentence suspended*, eleven, a three months prison sentence, *with execution of sentence suspended* three, a six months prison sentence, *with execution of sentence suspended*, one a penitentiary sentence *with execution of sentence suspended*, six, a fine varying from \$100 to \$500, and in default thereof, a prison sentence, *these all paid their fines and, accordingly, served no*

*prison sentence, five, a fine, and, in addition, a prison sentence with the execution thereof suspended*

"Your committee feels that there is no justification for such leniency by the Court of Special Sessions toward convicted violators of the Education Law. It seems to us that such light punishment can be no deterrent to violators of the law and is probably accountable for the many cases of recidivism that are constantly coming up. Furthermore, it defeats the valient efforts of the law-enforcing agencies to obtain convictions, being a grave injustice to the medical profession and, what is more important, to the community for whose protection the Education Law was primarily intended."

## Albany County

Dr Arthur G Root, nose and throat specialist of Albany, and former president of the New York State Medical Society, died on February 26 at his home from a heart attack. He was seventy-five.

## Bronx County

The class of 1919, Fordham University Medical School, held its twentieth anniversary class reunion dinner at the Metropolitan Club, 60th Street and Fifth Avenue, New York City, on February 18. Dr Joseph J Eiler was toastmaster.

## Broome County

Dr Mark Williams read a paper on "Post Pneumonic Empyema in Children," before the Broome County Medical Society on February 14. Discussion was opened by Dr S D Molyneaux, Dr U S Kann, and Dr R. J Wharton.

A plan for supplying medical service under a system of voluntary prepayments was tentatively mapped at a special meeting on February 28.



## Dutchess County

Dr James E Perkins, director of the Division of Communicable Diseases, State Department of Health, Albany, was guest speaker at the annual luncheon meeting of the Poughkeepsie Committee on Tuberculosis and Public Health on March 2 at the Nelson House in Poughkeepsie. His subject was "Pneumonia Control."

## Erie County

A nonprofit medical indemnity assurance corporation definitely will be launched by the Medical Society of the County of Erie and by physicians of the Eighth Judicial District providing the Piper bill is passed, Dr George R Critchlow, president pro tem of the contemplated body, announced on February 24.

Representatives of eight counties shaped details for its incorporation at a meeting on February 23 in the Buffalo club. Dr Harvey P Hoffman, chairman of the organization committee, presided. About fifteen physicians attended.

The new organization will be controlled by the medical profession "with a minority representation of lay members as the board of directors," Dr Critchlow reported.

Dr Critchlow said any physician in the Eighth Judicial District will be eligible to serve as a member of the service and all subscribers to the service will be free to choose their own doctors. The scheme provides for a payment covering medical fees as follows:

- 1—Single men, \$3 a year
- 2—Man and wife, \$4 a year
- 3—A family, including any number of children under 19, \$5

Fees will be regulated by the corporation and a grievance committee will iron out any differences arising in the operation of the scheme.

Unalterably opposed to the consolidation of hospital service and medical service into single corporations, the Medical Society of the County of Erie is on record as disapproving the Downey bill, now pending in the legislature, which would legalize such combinations.

The action was taken at the society's monthly meeting in the Hotel Statler on February 20.

The society instead endorsed Section 9-C of the Piper bill which in its provisions for the recodification of insurance laws allows the incorporation of medical and hospital service organizations but specifically provides that they be distinct units.

Dr Critchlow read a resolution adopted by the Hospital Service Corporation of Western New York likewise opposing such combinations.

"If these two services were concentrated in one corporation, the doctors would be under the control of a lay corporation, and the medical profession is opposed to that," Dr Critchlow declared.

Fearing "mass medicine practice by the government" unless the county medical societies are prepared to assume their responsibility, Dr Critchlow urged unanimous support by local physicians of a local medical expense indemnity organization which would become legal with the passage of the Piper bill.

"When the bill is passed we must be ready to jump into the field to forestall the Farm Security administration or any other governmental agency entering this phase of medical practice," Dr Critchlow warned.

The assertion of Buffalo Health Department officials that Buffalo's present outbreak of mild scarlet fever is "a good thing" for the city was challenged at the health board's meeting on February 16 by Dr Herbert H Bauckus, chairman of the board.

Health Commissioner Francis E Fronczak, Dr Barton F Hauenstein, the department's laboratory director, and Dr Edward Durney, director of child hygiene, had insisted that an outbreak of the character of the present one will be beneficial. They said it would provide thousands of persons with a "natural immunization" to protect them from more virulent strains of the disease germ in the future.

Dr Bauckus' two fellow physicians on the board—Dr Louis W La Mantia and Dr Stephen L Walczak—indicated agree-

ment with the views of the commissioner and laboratory head.

The matter came up when Dr Bauckus declared he was disturbed by the large increase in scarlet fever cases.

"We practically have an epidemic on our hands," he asserted. We haven't had such an outbreak since the epidemic of 1909, which took 168 lives."

"But the present outbreak is not an epidemic," Dr Fronczak countered. "And furthermore, the strain of the disease is the least virulent we have ever had. There hasn't been a death and there are no complications. Thousands of persons are being immunized naturally and they are being immunized for all time. The next outbreak might be highly virulent and these persons will escape."

Citing economic loss to families and possibility of ear and kidney complications, Dr Bauckus declared he disagreed with the view expressed, and said he favored a program of immunization by inoculation.

On February 22, Dr H M Zimmerman discussed "Cerebral Hemorrhage and Infarction" before the section of pathology of the Buffalo Academy of Medicine, on February 24, Dr Clark W Heath spoke on "Diagnosis and Treatment of the Blood", on March 1, Dr Donald Guthrie addressed the surgery section on "Cancer of the Breast", on March 8, Dr C A. Aldrich addressed the section of medicine on "Chronic Nephritis and Nephrosis in Children", on March 7, Dr Willard M. Allen spoke on "The Corpus Luteum Hormone," and on March 15, Dr Otto S. Crebs addressed the section of obstetrics and gynecology on "Sterility"

#### Essex County

A community meeting on Guard Against Syphilis, Enemy of Youth," was held at Memorial Hall, Mineville, on March 1

Mr Donald Charles, Supervising Principal of the Mineville high school, presided at the meeting, which was preceded by a musical program. Dr Thomas J

Cummins, health officer for the town of Moriah and superintendent of the Mineville Hospital, presented Dr Joseph P Garen, District State Health Officer, who spoke on "Guarding Against Syphilis"

One of the new photographic exhibits of the American Social Hygiene Association had been loaned to the Essex County Tuberculosis and Public Health Association, and was on display at the Mineville meeting. The talking film "For All Our Sakes" was also shown, through the cooperation of the Essex County Y.M.C.A.

Dr Violet McCasland of Moriah, President of the Essex County Medical Society, assisted in the discussion.

#### Franklin County

Dr J Woods Price was re-elected president of the Saranac Lake Society for the Control of Tuberculosis at the 32nd annual meeting in the John Black room on February 24 and all other officers of the society and members of the executive committee were also named to serve for another year.

Re-elected with Dr Price, were Dr E N Packard, vice-president, Ernest H Wood, secretary, and Mrs Lawrason Brown, treasurer.

#### Fulton County

Dr Frank van der Bogert of Schenectady was guest speaker at the monthly meeting of the Medical Society of Fulton County held on February 16 at Hotel Johnstown.

The subject of Dr van der Bogert's lecture was "Variation of Temperature in Children."

There were about 30 members present. The meeting was followed by a luncheon.

#### Genesee County

Dr C F McCarthy, Auburn physician and former health officer of Batavia, addressed a special meeting of the Genesee County Medical Society on February 23 at the courthouse in Batavia, on "The County Laboratory as an Asset to the Community." Since the recent death of

Dr Frederick Dorr Carr, for years head of the Genesee County Laboratory, a movement is on foot to take over this laboratory and reorganize it along the lines of the Cayuga County Laboratory and ask for state aid

Dr Carr, fifty-six, well-known Batavia surgeon and roentgenologist and director of the Genesee County Laboratory since its establishment nearly twenty-seven years ago, died on February 12 at the Batavia Hospital. He was stricken with a coronary embolism while apparently making a normal recovery from an emergency throat operation.

The directors of the Batavia Hospital adopted resolutions saying "Every department of the Hospital has received the impact of Dr Carr's constructive suggestions in the years past, and we learned to value his judgment when for several years he was a member of this board, and gave unsparingly of his time and energy

"Vital in word and deed, essentially a man of action, he spurred all who came in contact with him to improve and increase our various facilities and services "

### Kings County

The program of the Medical Society of the County of Kings on February 21 included these addresses "Clinical Aspects of Hypertension," William Goldring, M D, F A C P, Manhattan, "Surgical Approach of Hypertension," Frederic W Bancroft, M D, F A C S, Manhattan

The Friday afternoon lectures in March were

March 3, "Recent Contributions to the Aid of the Clinical Cardiac Examination," by Dr William Dressler,

March 10, "Errors in Diagnosis and Treatment of Heart Diseases," by Dr William Dressler,

March 17, "Modern Approach to the Early Diagnosis of Pulmonary Tuberculosis," by Dr James Alexander Miller,

March 24, "Sub-Deltoid Bursitis—Its Pathology, Differential Diagnosis and Office Treatment," by Dr Joseph E Milgram.

Addresses on gland disorders, heart trouble, and asthma featured a meeting of the Brooklyn Society of Internal Medicine in Kings County Hospital on February 24. Speakers were Dr Henry Fernblatt, Dr Henry Wolfer, and Dr George A Merrill. Dr Henry Monroe Moses is president of the group.

Dr Soma Weiss, professor of medicine at Harvard Medical School, spoke at the scientific session of the meeting of the Williamsburg Medical Society at the Leon Louria Memorial Auditorium of the Jewish Hospital, St Mark's and Classon Avenues, on March 13.

Officers are Dr Irwin Siris, president, Dr Charles Goldman and Dr Henry Louria, first and second vice-presidents, Dr Jesse M Levitt, treasurer, and Dr Samuel Millman, secretary.

Dr Lawrence J Morton, who died of a heart ailment after a brief illness at his home, 8802 Fort Hamilton Parkway, on February 26, at the age of seventy-eight, was long identified with civic activities. He had practiced medicine in Brooklyn for more than half a century. Born in Truxton, N. Y., he graduated from the Long Island College Hospital in 1884. He served as intern in the Kings County Hospital and for several years was superintendent of the medical division of that institution. He finally became a specialist in neurology and from 1903 to 1918 maintained a private mental sanitarium at his Fort Hamilton Parkway home. For thirty-three years he was a member of the St. Mary's Hospital staff.

Dr Wilbur L Rickard, seventy-one, one of the oldest physicians in the Stuyvesant section, died on February 15 of pneumonia in his home, 390 Stuyvesant Ave., after a short illness. Dr Rickard had practiced for the last forty-nine years and during all but a few years of that period he practiced in his home area.

Dr Lottie A Cort, one of Brooklyn's oldest women physicians and a founder of Chiropean, died in her home, 89 Division Ave., after a short illness, on February 14. She practiced medicine in Brooklyn fifty-five years. She also was a prominent

suffragist in the early days of the movement, and was one of the founders of the Elizabeth Cady Stanton Political Equality League.

### Monroe County

Physicians of Monroe County plan to guard against all dangers in the use of sulfapyridine. At a meeting of the pneumonia committee of the County Medical Society at the University Club on March 3 there was a discussion regarding measures to avoid harmful effects.

Remarkable results in curing pneumonia with the use of sulfapyridine in hospitals of Rochester and other cities are told.

But unless extreme care is taken to guard against injurious effects the life of a patient may be endangered by the drug itself.

Dr David Rutstein of the State Health Department's pneumonia bureau led the discussion.

While advising caution in handling the new drug, Dr Edward G Whipple indicated that the proper course for medical men is to continue use of serums which have been proved effective in treatment of five of the thirty two types of pneumonia.

Because of the surprising success of the new drug the public is clamoring for its use in all pneumonia cases. Since there is also danger of bad effects from it, serums of undoubted efficacy will be used for the types in which they have been proved successful.

At the same time physicians will use sulfapyridine guardedly, gaining the benefits of discoveries concerning use of the drug as they are made.

The regular meeting of the Medical Society of the County of Monroe was held March 21 in the new Academy Home at 1441 East Avenue, Rochester. The speaker was Dr Thew Wright, Assistant Professor of Surgery, University of Buffalo Medical School, Buffalo, and his subject was "The Treatment of Diffuse Peritonitis due to Perforative Appendicitis."

This was the first meeting in the new Academy building. In the business sessions, consideration was given to the reports of chairmen of special and standing committees, including those on legislation, public relations, public health, anesthesia, and self medication.

Cost of medical care of Rochester's welfare clients increased more than \$44,000 in 1938 over 1937, figures show.

Incomplete figures issued by Dr Arthur M Johnson, health officer, and Dr Sol J Applebaum, medical director, Welfare Department, include operation of Municipal Hospital, care of the indigent sick in their homes, and money advanced to other city hospitals for care of welfare patients either in the outpatient departments or in the hospitals.

Gross total of the expenditures in 1938 exceeded \$705,000. In 1937 the same gross was a little more than \$659,000.

Dr Samuel Case Jones, eighty three, a practicing physician in Rochester for fifty three years, died March 1. He had been in ill health for more than three years.

### Montgomery County

The Medical Society of the County of Montgomery participated in a scientific program at a meeting in the Elks Club in Amsterdam on February 28. The program was on "Dry Clinic" and consisted of papers on Charcot Joint by Dr Martin F Geruso, Hodgkin's Disease, Dr A J Townley, of Fonda, 'Acute Osteomyelitis, Dr George C Ferguson, 'Calculus Anuria, Dr C A Spence, 'Hypernephroma," by Dr Lew H Finch.

### Nassau County

The Nassau County Medical Society has endorsed legislation restricting licensing of professional men to citizens.

Dr Eugene H Coon of Hempstead, chairman of the society's legislative committee, approved the stand taken by the legislative bureau of the state medical

society, supporting the bill recently introduced in the assembly

The program of the Nassau County Medical Society on February 28 included a paper on "The Prophylactic and Therapeutic Uses of Convalescent Measles and Convalescent Scarlet Fever Serums," by William Thalheimer, M D, Manhattan Convalescent Serum Center, New York City

The Medical Society of Nassau County is established in new and larger quarters on the ground floor at 1551 Franklin Avenue, Mineola. For ten years, the society maintained its business office on the second floor at 1527 Franklin Avenue. Dr Louis H Bauer of Hempstead, president of the society, said that the headquarters of the Nassau County cancer committee which have been in the society office will continue in its new offices.

Moving operations were directed by J Louis Neff, executive secretary. Martha T Ackerson will remain as office manager of the society, and Barbara Heusner as clerical assistant, it was announced.

### New York County

A large gathering of New York physicians attended on February 27 a symposium on the proposed national health program, recently transmitted to Congress by President Roosevelt. The meeting, held at the New York Academy of Medicine under the auspices of the Medical Society of the County of New York, was addressed by various physicians on the pros and cons of the proposals for health insurance, as follows:

(1) "A Review of the National Health Program Proposed by the Interdepartmental Committee to Coordinate Health and Welfare Activities"—Martha M Eliot, M D, Chairman, Technical Committee on Medical Care, by invitation. (2) "The Responsibility of the Physician Toward a Health Program"—John P Peters, M D, Secretary, Committee of Physicians for the Improvement of Medical Care, by invitation. (3) "Compulsory Health Insurance"—Samuel J Kopetzky, M D. (4) "Medical Indemnity

Insurance"—Frederic E Elliott, M D, by invitation. Discussion: Haven Emerson, M D, Harry S Mackler, M D, George Kosmak, M D, Kingsley Roberts, M D, Peter M Murray, M D.

A reorganization of the New York City Department of Education Medical Board will take place soon, it is learned.

Assurance that the board will be revised to include "qualified psychiatrists," was given to 400 teachers attending a conference of the Teachers Guild on March 6 by Dr Jacob Greenberg, associate superintendent in charge of personnel.

Dr Greenberg said he wanted to "debunk" reports that there are 1,500 "insane" teachers in the school system. Over a period of fifteen years, he declared, 1,080 teachers were found to be suffering from mental and physical disabilities.

Of that number, 60 per cent "are mental and emotional cases," Dr Greenberg disclosed, adding that this indicated "the maximum number of suspected mental cases per year was twenty-four."

The Society of Medical Jurisprudence devoted its meeting on March 13 at the New York Academy of Medicine to a consideration of the "lie detector" and the detection of deception, with addresses by Joseph F Kubis, Ph D of Fordham University, and E P Caffey, of the Federal Bureau of Investigation.

The Bureau of Social Hygiene of the Department of Health, New York City, announces Part Two of the course in "Social Hygiene" for physicians, nurses, teachers, and other interested persons.

Lectures are being given on Saturday mornings at 10 30, in the Department of Health Building, 125 Worth Street, conference room, second floor. Each lecture is repeated on Tuesday afternoons, at 4 00, at 130 Leonard Street, in the Department of Health Building, clinic waiting room. Two opportunities to hear each lecture are thus offered.

### PART TWO

April 1 and 4, The Social Worker, the Nurse, the Investigator, by Kathryn A Loughrey.

April 8 and 11, Nonsyphilitic Venereal Skin Diseases, by Dr Boris Kornblith.

April 15 and 18, Gonorrhea—in Adults and Infants, by Dr Michael Wishengrad

April 22 and 25, Diagnostic Laboratory Procedures, by Mr John Koopman

April 29 and May 2, Treatment as a Means of Control, by Dr George Hogan

May 6 and 9, Prostitution and Community Syphilis, by Dr Walter Clarke.

May 13 and 16, Discussion

The following lectures will be given on Friday afternoons at 4 30 at the New York Academy of Medicine

April 7, The Endocrinological Basis for Gynecological Organotherapy, Emul Novak, M.D., Baltimore,

April 14, Hemorrhagic States—Recent Clinical and Therapeutic Developments, Paul Reznikoff, M.D.,

April 21, Chronic Nontuberculous Pulmonary Infections, Louis Hamman, Baltimore, and

April 28, Status Hypoplasticus its bearing on all fields of medicine and a discussion of the automatic compensatory mechanisms involved, Walter Timme, M.D.

The Bureau of Social Hygiene, with the approval of the Section of Dermatology and Syphilology and the librarian of the Academy of Medicine, will prepare an exhibit for the cases in the library. The subject is "Contributors to the Knowledge of Congenital Syphilis."

The exhibit will officially open on April 28. This is the date of the open meeting of the section of Dermatology and Syphilology, to the physicians of the city on noncutaneous manifestations of syphilis.

Sanford V. Larkey, M.D., of Johns Hopkins, will speak at the New York Academy of Medicine at 8.15 on April 13 on "Health in Elizabethan England."

Dr Angenette Parry, formerly a leading obstetrician in New York City, and long a leader among women physicians, died on March 1 of a cerebral hemorrhage at the Massachusetts General Hospital,

Boston, after a two-weeks' illness. She was eighty-one.

Dr Parry was personally decorated by the Greek government in 1931 with the Silver Cross Chevalier Savior for her work among refugees as head of the American Woman's Hospital at Kokina, near Piraeus, port of Athens, Greece. She was decorated by the French government as a member of the executive committee of the American Women's Hospitals.

Dr Parry was a past president of the American Medical Women's Association and of the Women's Medical Society of New York State. It was while she was president-elect, in 1917, of the former organization that it founded the American Women's Hospitals, an organization with headquarters here that has done philanthropic work in many nations, operating hospitals and clinics and cooperating with the Near East Relief, the Red Cross, and other groups.

### Niagara County

Dr Jesse G. M. Bullowa, of New York City, addressed the Niagara County Medical Society at a meeting on February 16 on serum treatment and other newer phases of the attack on pneumonia.

### Onondaga County

The program of the Onondaga County Medical Society, on March 7, included these addresses: "Recent Advances in Pneumonia Therapy," Dr E. C. Reifstein, discussion open by Dr H. Van Zile Hyde, and "Diverticulitis with Perforation" by Dr Fred L. Ritter, discussion opened by Dr Lee A. Hadley.

Features of the meeting of the Obstetrical Society of Syracuse Hospitals on March 14 were

- (1) Anonymous Case Reports of Maternal Mortalities—1939,
- (2) Paper: Cesarean Sections in Syracuse 1937–1938, Dr Raymond J. Pieri,
- (3) Election of officers.

The 20th birthday of the Onondaga County Health Association was celebrated

at a luncheon on February 27 at the Hotel Syracuse. Approximately two hundred citizens gathered for the occasion to hear Mr Homer Folks, Secretary of the State Charities Aid Association, deliver the principal address. Mr Folks reviewed briefly the control of tuberculosis in Syracuse and Onondaga County.

After reviewing some of the principal public health achievements in Syracuse, including the demonstration of public health administration which was carried on by the city with the assistance of large grants from the Milbank Memorial Fund, Mr Folks said:

"The most important thing that can be asked, perhaps is: What has all this effort to prevent tuberculosis amounted to? Has it had any effect on the volume of tuberculosis in Syracuse? On the number of deaths? That question can be answered convincingly. In a word, the death rate from tuberculosis in Syracuse, after making all corrections as to Syracusans dying from tuberculosis outside of the city, is as follows:

"In 1907, it was 143 per 100,000 population, in 1938, it was 30, slightly more than one-fifth that of 1907.

"Still more encouraging, perhaps, is the fact that in the past decade, from 1929 to 1938, it has been reduced by slightly more than one-half."

### Ontario County

Use of protamine insulin in the treatment of diabetes was explained by Dr George B. Andrews, of Syracuse Memorial Hospital, in a talk before the Geneva Academy of Medicine at the Geneva Country Club on February 16. Dr Andrews filled in for Dr William A. Groat, president of the Medical Society of the State of New York, who was ill and unable to fulfill his speaking engagement.

Discussors of Dr Andrews' talk were Drs T. W. Maloney and P. W. Skinner, of Geneva, G. E. Welker, of Dresden, and E. M. Wellbery, of Waterloo.

### Orange County

"A new method of informing its mem-

bers of current happenings of interest has been instituted by the Orange County Medical Society. It consists of a monthly bulletin presented in an attractive folder, and mimeographed sheets of letter-size, suitable for filing. The initial number, Vol. 1, No. 1, January 39, gives officers, committee members, and roster of the society for 1939. Later issues featured, for February, the President's message, and for March, a symposium on Tuberculosis in Orange County, as well as the scientific programs projected by the staffs of the various hospitals of the county for the ensuing month. This new departure of monthly news letters should prove stimulating to the interest in county medical activities, and the cost of the undertaking has been assured by advertising obtained for the publication."

Dr Martin Cole, 89 years old, of Hanesville, died on February 25 after a fall. He had practiced medicine in that region all his professional life.

### Oswego County

Dr Jeremiah T. Dwyer, 68 years old, who died in Oswego on February 27, had practiced medicine there for nearly 48 years.

### Queens County

State Superintendent of Insurance, Louis H. Pink, in an address before the Queens County Medical Society in Forest Hills on February 28, urged physicians to give careful study to compulsory health insurance and socialized medicine wherever it is in operation so they could learn both its weaknesses and its strong points.

Refusing to take sides in the controversy, Mr. Pink related facts and figures showing advantages and disadvantages of voluntary hospitalization and medical plans.

"Both the governor and the legislature have indicated that the problem is one which requires further deliberation.

"Every effort should be made to develop voluntary action among our citizens before the state or the nation embarks

upon a program of compulsory insurance," he said.

As a climax to the antituberculosis campaign of the Medical Society of Queens, plans are being furthered for provision of rapid, low-cost x-ray service at the society's exhibit in the Medicine and Public Health Building at the World's Fair.

A contract for 500 square feet of space in the building has been signed by Dr Joseph Wrana and Dr Frank Mazzola, president and secretary of the society, respectively, and Grover Whalen, president of the Fair Corporation.

It is expected that an average of 1,000 radiographs, including x-ray pictures and brief case histories, will be sent daily to the personal physicians of applicants for the service, which will cost \$1. No diagnoses will be given at the Fair grounds.

Dr Chas. Gordon Heyd spoke at the Queens County Society Building at 430 on February 17 on "Disease of the Gall bladder and Bile Ducts," and Dr James T Gwathmey, on March 3, on "Anesthesia in Labor."

### Rensselaer County

Physicians from Rensselaer and neighboring counties met at Troy Hospital on March 2 to hear national authorities on the treatment of pneumonia.

The all-day institute was conducted by the Medical Society of the State of New York through the Rensselaer County Medical Society in cooperation with the New York State Department of Health. Dr Maxwell Finland, of the Harvard Medical School, and chief of the pneumonia control division of the Boston City Hospital, discussed the new remedies.

The morning program was opened by Dr A J Hambrook, chairman of the public relations committee of the New York State Medical Society. Greetings from the Troy Hospital staff were given by Dr J J Quinlan.

A talk on the early diagnosis of pneumonia was given by Dr Norman Plummer of New York City, associate professor of medicine at Bellevue Hospital Medical

College. Dr A H Harris of the division of laboratory and research of the State Department of Health spoke on "Bacteriological Diagnosis of Pneumonia."

The state's pneumonia control program was described by Dr A D Langmuir of Albany, pneumonia consultant of the State Department of Health.

Through such programs the pneumonia mortality rate has been reduced in the last ten years and the disease is now under much better control.

During the afternoon a panel discussion of the morning's topics was held, followed by sound moving pictures on pneumonia.

Luncheon was served for the group by the Troy Hospital.

### Rockland County

As guests of the Secretary, Dr William J Ryan, approximately fifty members of the Medical Society of the County of Rockland attended a medical meeting which was held at the Summit Park Sanatorium (recreation hall), Pomona, New York, on Monday evening, February 27. Dr Julius Pomerantz, president of the Society, presided.

The principal address of the evening was given by Dr Ryan, his subject being "Modern Medical and Surgical Methods in the Treatment of Pulmonary Tuberculosis (illustrated with lantern slides, and demonstration of cases)."

To illustrate the importance of scientific rest in the treatment of pulmonary tuberculosis, Dr Ryan showed slides of 'before' and 'after' the rest treatment was established. Other slides, giving graphic evidence of how the disease was cleared up by the institution of artificial pneumothorax and thoracoplasty, were also shown. Patients who had undergone surgical methods were introduced to illustrate the results of this form of treatment.

Preceding Dr Ryan's address, a sound movie film on "Diagnostic Procedures in Tuberculosis" was shown.

Discussion was opened by Dr Joseph R Morrow, superintendent of Bergen Pines, Oradell, New Jersey.

Dr Douglas R. Gordon, superintendent



of the O'Dell Memorial (Orange County Tuberculosis Sanatorium) at Newburgh, New York, and Dr Harry L Chant, District State Health Officer at Middletown, New York, both commented on the work done at Summit Park

The evening's program also included a brief talk regarding "Volunteer Free Blood Donors to the Indigent," which was given by Mr C Ray Ackerman, president of the Rockland County Emergency First Aid Council

Following the meeting, a steak dinner was served in the main dining room of the hospital

### Warren County

Dr E F Roberts, of the Lederle Laboratories, presented a film on "The Management of Pneumonias" at the meeting of the Glens Falls Academy of Medicine on February 23

### Westchester County

The meeting of the Westchester County Medical Society on February 21 at New York Hospital, Westchester Division, White Plains, was one of the largest and best meetings in the society's recent history. More than two hundred members were in attendance to hear the address of Dr Samuel A Levine of Boston, on "The Value of Auscultation of the Heart." Seldom has a more comprehensive and thoroughly practical review of a subject of general interest been offered to the society.

Discussion of Dr Levine's paper was opened by Dr Arthur F Heyl of New Rochelle, others who took part included Dr William J Vogeler of Yonkers and Dr Reginald A Higgons of Port Chester.

The Public Relations and Medical Economics committees announced that they are jointly making a study of contracts existing or contemplated between mutual aid associations, lodges, etc., and individual members of the society. These committees reminded members of the society that they are expected, under a resolution adopted in April, 1938, to submit new contracts to the society for approval as to their ethical aspects before

accepting them, and that failure to do so is tantamount to unethical conduct.

A special address was given by Mrs Grace S Woods, R N, Executive Secretary of District 13, the New York Counties Registered Nurses Association, on "A Central Nursing Bureau for Westchester County." The plan for a Central Nurses Registry is expected to overcome many of the difficulties reported in recent years by doctors and residents in Westchester County, in securing adequate nursing service.

Through the cooperation of alumni associations, directors of nursing service in the hospitals and institutions, as well as visiting nurse associations, more than 2,200 nurses in the county have recently been circularized and a large number have indicated their wish to be affiliated with a Central Professional Registry.

The registry will be located in White Plains and will give a twenty-four-hour service. The telephone exchange will be set up on a countywide hookup, and service will be available from all parts of the county at the cost of a local message.

The objectives of the registry are to supply directly or indirectly adequate nursing service to all who need it, in home or hospital, by providing the services of registered nurses for private duty service, hourly nursing service, institutional nursing service, and for doctors' offices and other positions. The registry will supply practical nurses, nurse attendants, technicians, dieticians, and other medical workers.

A notable forum on "Control of Cancer" was held in Yonkers on March 1 and 2, with a distinguished array of speakers, under the sponsorship of the City Health Department, Yonkers Academy of Medicine, Board of Education medical department, all Yonkers hospitals, the Yonkers Tuberculosis and Health Association, Yonkers Visiting Nursing Association, City Welfare Department, Yonkers Council of Social Agencies, Yonkers Coordinating Council, Yonkers Council of Parents and Teachers, Mothers Clubs of the parochial schools and the Westchester Cancer Committee.

A dinner meeting was held by the New Rochelle Medical Society on February 13 at the Wykagyl Country Club. Dr Charles Hendee Smith, pediatrician, of New York City, spoke on "Hygiene and Diets in Children," and an interesting discussion on general pediatric subjects followed.

The Yonkers Academy of Medicine held a stated meeting at the Amackassin Club on February 15. Dr Henry C

Folk of New York City presented a paper "Management of Infected Abortions."

The Yonkers Visiting Nurse Association has announced a series of classes open to all married men at which instruction will be given in the duties of an "Expectant Father." The class teacher is Dr James T Gorton, Surgeon Emeritus of St. John's Riverside Hospital, who will discuss the various duties and responsibilities of daddies-to-be.

## Correspondence

To the Editor

In number 6 of the Journal is an error in the Editorial "Prevention of Deafness" that might puzzle the less expert in otology. Speaking of middle ear deafness it obviously should read "impairment of hearing for the low tones and good hearing for the high tones."

Paul G Frank, M D

Kew Gardens L. I.

Mar 22, 1939

In their article, Crowe and Baylor demonstrate the early loss of hearing acuity for the high tones as measured by the 1 A audiometer and emphasize that this finding controverts all prior conceptions of the type of hearing loss in early conduction deafness in children. For details, refer to their publication in the *Journal of the American Medical Association*, Feb 18 1939, page 585—*Editor*

I DO NOT LOVE YOU DOCTOR FELL YOU CARVE TOO FLUENTLY AND WELL

I do not love you, Doctor Fell the reason why, I'll briefly tell

The doctor of the olden days had kindly words and pleasant ways and though his pills were on the bum and sent folks off to Kingdom Come, and though he liked to swell the hosts of skeletons and sheeted ghosts it never was his foolish plan to use a saw on every man. Unlike the modern maniacs, who carve their patients with an axe, he dealt out calomel or nux and soaked us for a pair of bucks and if he killed us—good old soul! he left us to be planted whole.

When I am sickly and unstrung you ask me to unfurl my tongue you feel my pulse and prod my back, and say my liver's out of whack and then you shed your vest and coat, and push a lantern down my throat and say "Great Caesar! What a heart! I'll have to take you all apart." And on your table I am laid while you go out to hunt a spade, to dig around among

my works and find the blamed old germ that lurks around the angles of my frame—the way you carve me is a shame.

When winter comes with frost and snow I have a chillblain on my toe and when for limbment I beg you want to amputate my leg and when my throat gets sore and raw you want to cure it with a saw to cure my baldness you I ween would run me through a guillotine. A leg of mine is now at rest among the doctors of the West an Eastern doctor has in brine about eight inches of my spine the jaw that once adorned my mouth, is kept in pickle in the South.

I do not love you Doctor Fell you carve too fluently and well I fear you and your edged tools I'll send to correspondence schools for absent treatment when I'm ill—or hit the good old-fashioned pill

Walt Mason in the *Emporia Gazette* and *Ill Med J*

# The Women's Medical Society of New York State

Welcomes all Medical Women—City, State, National, and International

**T**HE Annual Meeting of the Women's Medical Society of New York State will be held on Monday, April 24, 1939, at the Onondaga, Syracuse

There will be a Councillors' Meeting in the morning from 9 30 A M until 12 M , which will conclude with the election of officers Luncheon will follow at 12 30 P M

The afternoon will be devoted to a scientific program by women outstanding in their lines, from various sections in the state

Distinguished speakers will give us important messages at the dinner on Monday, April 24, at 7 00 P M at the Onondaga

On Sunday afternoon, April 23, from five to seven o'clock, at the Onondaga, there will be a reception to Dr William A Groat, the officers, delegates, and members of the Medical Society of the State of New York and their ladies A moving picture by Dr Dyer of "A Trip Around the World" will be shown

We are looking forward to greeting our many distinguished medical women and their friends Dr Clara Pierce and her committee of arrangements will be most happy to be of service to this end

Madge C L McGuinness, M D ,  
President  
Marguerite P McCarthy, M D ,  
Secretary

## SCIENTIFIC SESSION—2 00 P.M

### ONONDAGA HOTEL

#### I Clinical Case Reports

- 1 Influenzal Meningitis with Recovery

Laura C Harris, M D , Syracuse

DISCUSSION George M Retan,  
M D , Syracuse

- 2 Erythroblastic Anemia

Marguerite P McCarthy, M D ,  
Solvay

DISCUSSION Ellery G Allen, M D ,  
Syracuse

#### II Papers

- 1 Some Health Problems in a District Health Program

Sophie Rabinoff, M D , New York City  
DISCUSSION Louise Beamis-Hood,  
M D , Buffalo

- 2 The Prognostic Significance of the S-T Interval

Jane Sands-Robb, M D , Syracuse  
DISCUSSION Teresa McGovern,  
M D , Anna Samuelson, M D ,  
New York City

- 3 Newer Aspects in the Diagnosis and Treatment of Tuberculosis

Helen G Walker, M D , Buffalo  
DISCUSSION Margaret Warwick,  
M D , Buffalo

Katherine F Carnivale, M D ,  
Buffalo

### Annual Banquet

*The Onondaga, April 24, 7 00 P M*

*Madge C L McGuinness, M D , Toastmistress*

# House of Delegates of the Medical Society of the State of New York

## Reference Committees—1939

The Speaker, Dr James M. Flynn, announces the appointment of the following Reference Committees to consider the various annual reports now before the House for its consideration on April 24, 1939

### Credentials

Peter Irving *Chairman*  
Edward C. Podvin  
John L. Sengstack  
William A. Moulton  
Bernard S. Strait

New York  
Bronx  
Suffolk  
Tioga  
 Yates

### Report of the President

Robert Brittain *Chairman*  
William W. Street  
Coburn A. L. Campbell  
Howard Fox  
Herbert H. Bauckus

Delaware  
Onondaga  
Suffolk  
New York  
 Erie

### Reports of Secretary, Censors and District Branches

Louis A. Van Kleeck, *Chairman*  
William B. Cornell  
J. Stanley Kenney  
William A. MacVay  
Albert A. Gartner

Nassau  
Albany  
New York  
Monroe  
 Erie

### Reports of Treasurer and Board of Trustees

Frederic E. Sondera *Chairman*  
Aaron Sobel  
Peter J. Di Natale  
William Klein  
John J. Rooney

New York  
Dutchess  
Genesee  
Bronx  
Monroe

### Report of Legal Counsel

Edward R. Canniffe *Chairman*  
John T. Donovan  
Alfred M. Hoffman  
Albert G. Swift  
Merwin R. Marland

Bronx  
 Erie  
New York  
Onondaga  
Westchester

### Report of Council—Part I

Introduction  
Postgraduate Medical Education  
Public Health Matters  
Maternal Welfare  
Walter D. Ludlum *Chairman*  
Florence M. Hicks  
John J. Buettner  
W. Orant Cooper  
Stephen H. Curtis

Kings  
Amsterdam  
Onondaga  
St. Lawrence  
Rensselaer

### Report of Council—Part II

Medical Care Surveys in New York State  
Medical Relief  
Thomas M. Brennan *Chairman*  
William Hale, Jr.  
Walter P. Anderson  
Edgar O. Boggs  
Stephen R. Montelith

Kings  
Onondaga  
New York  
Lewis  
Rockland

### Report of Council—Part III

Medical Expense Nonprofit Indemnity Insurance  
Workmen's Compensation  
Leo F. Simpson *Chairman*  
Edward C. Wood  
Andrew Sloan  
Harvey P. Hoffman  
John B. D. Albora

Monroe  
Westchester  
Onondaga  
 Erie  
Kings

### Report of Council—Part IV

Legislation  
Publications and Medical Publicity  
Adolph G. De Sanctis *Chairman*  
Edgar Bisber  
Charles A. Anderson  
Charles C. Trembley  
Maximilian A. Ramirez

New York  
Chautauqua  
Kings  
Franklin  
New York

### Report of Council—Part V

Annual Meeting Arrangements  
The late Dr. Frederick H. Flaherty  
M. D. License Plates  
New York State Board Nominations  
Malpractice Group Plan Insurance  
Homer J. Knickerbocker *Chairman*  
Francis N. Kimball  
James R. Reuling, Jr.  
Warren Wooden  
Thurber La Win

Ontario  
New York  
Queens  
Monroe  
 Erie

### New Business—A

George Baehr *Chairman*  
William C. Treder  
G. Scott Towne  
Arthur F. Heyl  
Richard H. Sherwood

New York  
Schenectady  
Saratoga  
Westchester  
Niagara

### New Business—B

Frederic C. Conway *Chairman*  
Emily D. Barringer  
James M. Dobblins  
Laurence D. Redway  
Clarence V. Costello

Albany  
New York  
Queens  
Westchester  
Monroe

### New Business—C

Floyd J. Atwell *Chairman*  
J. Lewis Amster  
Alec N. Thomson  
George A. Burgin  
Leo F. Schiff

Otsego  
Bronx  
Kings  
Herkimer  
Chilton

# Hospital News

## Motor Service for Needy Outpatients

QUEENS GENERAL HOSPITAL cares for the sick in the hospital buildings, and visiting nurses help the sick in their homes

But until Mrs Hendrick Hendrickson of Laurelton organized the Queens General Hospital Motor Corps, says *The Long Island Press* (Jamaica), there was no way in which many needy outpatients could be transported between their homes and the clinic

It meant that some patients who could otherwise have gone home after operations or illnesses had to be kept in the hospital for treatment, occupying beds that others were waiting to use

It also meant hardships for many who had to mount the high steps on buses, wait in the cold or rain and arrive home after their clinic visit so exhausted that their treatment was less effective

### How It Began

Mrs Hendrickson, who has done voluntary social work all her life, was a member of the Committee for Queens of the New York City Visiting Committee when the new Queens General Hospital was opened November 18, 1935

Known by hospital attachés for her untiring work for others, it was soon after the hospital opened that Mrs Hendrickson was called upon. A patient who had undergone a major abdominal operation and had gone home had not returned to the clinic for treatments. Because there were several drains still in the patient's body, the Social Service division of the hospital sent a postcard telling the patient she must come. She sent a card saying she had no way of getting to the clinic. She didn't live near a bus stop, there was no car in her family, and she could not afford a taxi.

Mrs Hendrickson said she would act as chauffeur and drove to the home and brought the patient to the hospital

While Mrs Hendrickson was waiting to bring her home, she received another SOS. A patient in the hospital was discharged and could go home if she had her clothes. There was no one at home to bring them to her, and no one knew what to do. Mrs Hendrickson said she would get them, and the problem was straightened out at once.

### More Drivers Enlisted

When she returned with the clothes, Mrs Hendrickson waited and then drove the second person home.

It was then that Mrs Hendrickson conceived the idea of the Motor Corps. She knew women who had cars and some spare time. She looked around in the clinic and saw the crutches and casts that bore testimony to the hardships the patients went through to get to the clinic.

It wasn't long before she enlisted a few of her friends and their work started. The names and addresses of patients who were to be transported were supplied by the Social Service, and the women, under the supervision of Mrs Hendrickson, divided the list.

Mrs Hendrickson soon found that the ride to the hospital and back represented more than a clinic visit to most of the patients. For most of them, the trip was their only fresh-air jaunt between long and dreary shut-in periods. It was an adventure, a pleasure trip, and a rare holiday, all in one.

The women in the corps devote as much time to the work as they please. They may volunteer for only one morning or afternoon a month or for part of every day. They may choose the communities from which they are to take patients and they may choose the type of patients they wish to drive.

"We're not expected to be anything more than drivers," Mrs Hendrickson explained. "The Social Service gives us

their names and takes care of their problems. There is no expense, other than gas and oil, involved."

There is nothing, however, which prevents the women from providing extra services, and one who never refuses a favor is Mrs. Hendrickson. When her patients are too ill to go to the clinic, she gets their prescriptions and cuts yards of red tape to get their medicines and bring them to the homes. She drives miles out of her way to let her patients see the World's Fair grounds.

She knows instinctively when a patient, through no fault of his own, is becoming a burden to his wife or children and keeps him in the car while she calls for others, in order to let his family see a moving picture or otherwise spend a free afternoon.

### Hospital Grateful

Not only the patients and their families but the hospital authorities realize fully the benefit of the corps.

"This service is invaluable," Dr. Marcus D. Kogel, superintendent of the hospital, told the reporter.

"Their work is so valuable that I have mentioned the corps twice in my annual reports to Commissioner of Hospitals, S. S. Goldwater. Especially important for cancer cases, it allows many sufferers to come for radiation treatments where they might not otherwise be able to make the trips.

The work saves beds for the hospital. It also makes it possible for patients to come the easy way instead of the hard way."

Many grateful letters are written to the hospital from patients and their families.

One Richmond Hill woman wrote after her husband's death that so thankful was the family for the help extended to him that his seven children had taken a vow to help the Motor Corps and the hospital in any way they could. One boy had

started to donate blood to the hospital blood bank.

### No Contagious Cases

Not one of the cases of the clinic or hospital are contagious. Contagious cases are not accepted at the hospital, much less the clinic.

Because Queens was forced to get along without a city hospital for so many years, the clinic is crowded with patients who suffered without proper medical attention for years, making the work of the clinic heavier than it would be had there been a hospital here before.

Mrs. Hendrickson finds herself devoting at least a part of every day to work of the corps.

"If a patient lives in Glendale, for example, he must take two trolleys and a bus to get to the hospital," she pointed out. "This means not only physical torture but thirty cents fare for the trip there and back. Usually the patient is accompanied by another member of the family, making the cost sixty cents. By automobile it is only a twelve-minute run. Most of these people are on relief, and the cost of their fare sometimes means that they will do without food or other necessities."

### Patients Cheerful Company

"Some women may think the patients they drive are unpleasant sights, but you'd never know anything was wrong with most of them. Besides, they're so happy to be out that they're usually very cheerful company."

"I've had women tell me they would like to do this work but are afraid of having accidents. I always tell them it's no more of a risk than driving friends home from a bridge party. Besides, I sincerely believe that there is very small chance of anything happening to people bound on errands of mercy. The women are not expected to work during weather that is dangerous for driving."

---

The new Welfare Hospital for Chronic Diseases, on Welfare Island, New York City, will be opened on July 1, at a cost of almost \$8,000,000.

## Substandard Hospitals

**T**HE American Medical Association shows 6,128 hospitals in the latest list of registered hospitals. The American College of Surgeons has approved 2,664 of these, leaving 3,464 which are below standard, which means that they are honest but are not rendering adequate service, observes the editor of *Hospital Management*. Practically all these are below standard because pathologists and radiologists are not available to give the necessary service or because they are so short of funds that they cannot provide proper facilities. In almost every instance, hospitals are doing their best to give a service which will be approved, but find it impossible for one or other of the two reasons stated above. What is the answer?

Pathologists and radiologists are not available in sufficient number to supply all the hospitals and they are not needed. Large or small groups of hospitals in any given territory can combine to secure laboratory service from a trained pathologist and radiologist but it is expensive. The plan has been shown to be a success and where it is not adopted the reason is usually that money is not available.

Money is not available because of the enormous amount of free work which must be done. Bills for food and other supplies have to be met and the hospital has nothing left for anything that is not absolutely necessary to existence. Diagnostic and therapeutic facilities are therefore not made available.

The question then narrows down to the hospital receiving from one source or another the cost of caring for the indigent. In the days of prosperity, philanthropy took care of this class of patients, but apparently those days are gone forever. Profits from paying patients do not suffice to meet the deficit created. The only answer appears to be for the governmental authorities to meet their recognized responsibility of caring for these patients. With federal and other governments concerning themselves with the betterment of hospital care, a great deal of thought should be given to improvement of the 3,464 hospitals which are not rendering approved service because of financial difficulties. There could be no better place to expend any federal or state funds that can be made available.

## "A Little Knowledge Is a Dangerous Thing"

**T**HAT "a little knowledge is a dangerous thing," is the conclusion of Dr LeRoy F. Hollis, superintendent of Oswego County Sanatorium at Orwell, as applied to self-diagnosis of physical condition by patients.

The observations and opinions of Dr Hollis are expressed in the leading article of *The Bug*, bimonthly publication of the patients at the sanatorium.

"The most difficult patients to treat are those who think, they know more than the physician or nurse and want to make their own diagnosis and suggest the treatment to be followed," the doctor states. Continuing, he writes

"They may have read some old family 'doctor book,' or had some old rumor handed down as to what to do for this or that ailment.

"You often hear the remark, 'it must be difficult to treat children and babies.' This is not so. Children and babies do not try to deceive you, they do not exaggerate their symptoms, they do not make a diagnosis of their troubles, they do not suggest treatment or tell you what John Smith's doctor did for him when he was sick. They have no opinion as to what their trouble is or how it ought to be treated. They themselves are very easy patients to treat, but alas, too often they

may have an old maid aunt or grandmother who have 'a little knowledge' and are prepared to impose it on the physician."

### Where the Trouble Arises

"When a patient consults a physician it is evidence of itself that they have some confidence at least in the physician consulted or they would not consult him. After consulting the physician they should be guided by the advice of the physician and submit absolutely to the suggestions and treatment outlined. Right here is where the trouble often arises. The patient has or thinks he has some knowledge of his trouble. He may have a thermometer and can take his temperature, possibly his pulse and what few symptoms he is able to recognize he puts together and makes a diagnosis of his own—sometimes right, often wrong. He may dwell on these symptoms until he really believes he has some serious trouble which the physician may have difficulty in getting out of his mind."

"When the patient comes to the physician with his diagnosis all made up, if he is wrong, the physician should try to explain his error. On the other hand, if the patient is on the right track the physician should collaborate with the patient in making a diagnosis and suggesting treatment. In this way he will gain the confidence of the patient, which will materially help in the treatment—in fact no treatment will be of any great benefit to the patient unless there is mutual confidence between patient and physician," Dr Hollis states. He suggests if this confidence ceases to exist and cannot be re-established, the patient should either be discharged to some other physician, or he should consult some other physician in whom he has absolute confidence.

A wise man, be he patient or physician, never thinks he knows it all. It is often better for the patient to know nothing than know too much. This is the reason a baby or child is often easier to treat than an adult. That is why a little knowledge may be and often is a dangerous thing.

### SERVING ON COMMITTEES

Serving on a committee of a county medical society is a task which should be taken seriously or not accepted at all, says *The Milwaukee Medical Times*.

Each committee member is under an obligation to serve faithfully and contribute something of real worth to his organization. Many do not realize this and are perfectly willing to let one or two members on the committee do all the planning and the work that is necessary. Are you that kind of a committeeman?

It might be interesting to consider the ideal member of a committee. What are his qualifications and how does he meet his responsibilities?

First he should have the interest of the medical profession at heart.

Second, he will give thought and study to the subjects which come up before the committee and will not just be one of those present. No committee can do much on behalf of the profession which is not made up of members genuinely

interested in the tasks to which they have been assigned and willing to give the time necessary to put through the plans evolved.

Third, he will make it a point to be on hand for all meetings unless his professional duties require him elsewhere. Nothing is so demoralizing to a committee as to have two or three out of ten or fifteen members present. There is no quorum therefore, no action can be taken. Those on hand become discouraged and unless interest is somehow stimulated they also drop out and the committee becomes dormant.

Fourth, he will not allow one or two members to assume the entire burden for developing plans, but will contribute ideas of his own.

Committees can do much to improve the efficiency of medical societies because most of the planning is in their hands. Their personnel however should be carefully selected from among those men who will meet the qualifications here described.



# Medicolegal

LORENZ J. BROSNAN, ESQ.

Counsel, Medical Society of the State of New York

## Licensing of Foreign Physicians

**I**N TWO proceedings which came before the Appellate Division of the Supreme Court of this state for the Third Department, an important ruling has just been handed down by that Court which sustains the action of the Board of Regents in the action taken by them dealing with foreign physicians attempting to obtain licenses to practice their profession in this state \*

The first of the petitioners who instituted the proceedings claimed that he had begun the study of medicine in 1912 and had continued it at various German universities until the fall of 1914. After the War he continued his studies and received a German medical license in July, 1922. The second petitioner claimed that at the beginning of the War he had completed certain medical courses in German universities entitling him to serve as an assistant physician in various hospitals until the end of the War, and that he received his license in June, 1919.

In 1937, both petitioners, attempting to obtain a license to practice medicine in this state, passed an examination in English and applied for admission to the January, 1938, medical licensing examination. Such examination was taken by one petitioner who received a passing mark in but two of the nine subjects, the other petitioner failed to achieve a passing grade in a single subject. The former was re-examined in the fall of 1938 and received a passing mark in but three of the subjects.

Subsequent to the January, 1938, examination, both applicants presented to the Board of Regents applications for endorsement of their German medical licenses in an attempt to be permitted to

practice without the requirement of passing the New York State licensing examination. The Regents denied the applications and indicated the reason as "because the evidence submitted

is not satisfyingly sufficient to warrant such indorsement, but that such denial shall be without prejudice to the right of the applicants to continue taking the medical licensing examinations."

The two foreign physicians thereupon instituted a proceeding in the Supreme Court in the nature of a mandamus proceeding applying for an order to compel the Board of Regents to indorse their foreign licenses without requiring them to pass the New York examination. The Court, at Special Term, after hearing the parties, ruled that questions of fact relating to the qualifications of the applicants were involved and directed that those questions should be tried at a Trial Term of the Supreme Court. From that ruling made at Special Term all parties appealed to the Appellate Division, the Board of Regents contending that it had properly denied indorsement to the two foreign doctors and they in turn claiming that they were entitled to automatic indorsement upon the papers they had presented.

As a preliminary proposition, the Appellate Division decided that the lower court had erred in directing a trial of the question of the qualifications of the two physicians, since such procedure would be an unwarranted review of the decision of the Board of Regents on proof which was not necessarily before the Board of Regents at the time it made the rulings complained of. The Court thereupon determined that the real problem before it was whether the action of the Regents in denying the applications was "arbitrary, unfair or capricious."

\* In the Matter of the Application of Erlanger and Levi v. the Regents of the State of New York, *et al.* decided March Term, 1939, by Appellate Division, Third Department.

The pertinent provisions of the Education Law under which the petitioners claimed they were entitled to indorsement of their license provides as follows

"3 And the Regents shall have further power to indorse a license issued by a legally constituted board of examiners in any other state or country upon satisfactory evidence that the requirements for the issuance of such license were substantially the equivalent of the requirements in force in this state when such license was issued, and that the applicant has been in the lawful and reputable practice of his profession for a period of not less than five years prior to his making application for such indorsement. When the evidence presented is not satisfyingly sufficient to warrant the indorsement of such license, the Board of Regents may require that the candidate for indorsement shall pass such subjects of the licensing examination specified by statute or Regents' rule as should be required of the candidate to establish his worthiness to receive such indorsement."

The Court, in a well considered opinion written by Mr Justice Heffernan, commented upon the purpose and effect of said statute as follows

"The obvious purpose of the statute was to permit the Board of Regents to indorse a license issued by the licensing board of another state or country in those cases in every profession in which the applicant is unable to meet the letter of the requirements of the statute governing admission to the profession in which a license is sought but possesses essentially the same or equivalent qualifications necessary for a license. The power herein granted is a limited one, remedial in its nature, and must be exercised by the Regents with caution and with due regard to the statutes regulating the practice of medicine in this state. Certainly the Regents may not through the exercise of the power granted by this statute indiscriminately indorse foreign medical

licenses The legislature has provided a way for these applicants to practice medicine. It was never intended that they should be allowed to enter by indorsement. Before the Regents can legally indorse a foreign license they should be satisfied that the applicant has substantially met all requirements The Regents may not legally, through the exercise of the remedial power conferred by this section, admit to the profession those who have not met the requirements the legislature has established If they err at all, it should be on the side of the protection of the public from unworthy and inefficient practitioners This section was only intended by the legislature to apply to exceptional cases where the merit of the applicant is clearly established *to the satisfaction of the Regents* The burden of proof is upon the applicant. He must not only prove that he graduated from certain institutions but he must also prove to the satisfaction of the Regents that these institutions are substantially the equivalent of the New York schools. He must not only prove that he has a foreign license but he must also prove to the satisfaction of the Regents that the requirements for that license were substantially the same as in New York

The Court pointed out that Section 1256 of the Education Law provided a way by which foreign practitioners could by passing the licensing examination, become qualified to practice in this state The fact situation was reviewed and it was pointed out that the petitioners had failed to sustain their contention that they possessed the necessary qualifications to be licensed to practice medicine in New York and in the course of the opinion the Court said

'None of the institutions from which the petitioners graduated has ever been registered by the Regents or by the Department of Education as maintaining proper medical standards In neither petition is there any allegation

that the German standards at the time the petitioners received their licenses were substantially the same as those existing in the state of New York. There is no proof whatever as to the equality of the German institution, including faculty, length of courses of study, curriculum, or equipment. There is no proof that petitioners ever passed a licensing examination as required in this state. As a matter of fact what little evidence there is before the Regents indicates that the standard of the German schools was lower than the standards in the State of New York and the requirements for the license were far from being essentially the same as those in New York."

In ruling that the Board of Regents had not acted arbitrarily or capriciously the Court stated

"It cannot be seriously argued that the Board of Regents acted either arbitrarily or capriciously in requiring petitioners to pass a satisfactory examination before indorsing their licenses. The State has the right to demand that those who seek to practice medicine and surgery or to diagnose and treat human diseases, ailments or deformities shall pass a satisfactory examination as evidence of skill and competency. Such a requirement is neither unreasonable nor discriminatory. Surely the best method to determine the skill and ability of an applicant is by direct examination. The relation of physician and patient is of such a confidential and serious nature that not only the skill but also the moral character of the physician is of great importance to the interests of the patient and the State. The object sought in requiring applicants to practice medicine to submit to examination is the protection of the home, of the sick and distressed from the intrusion therein in a professional character of those destitute of the proper qualifications. The preservation of public health is one of

the duties devolving upon the State as the sovereign power and the discharge of this duty is accomplished by means of the exercise of the inherent police power of the sovereign. We know from our own experience that practically all persons are obliged to consult a physician at some period of life and but few are able to judge of his qualifications in point of learning and skill and, because of the importance of the interests committed to his care involving life and death, it is imperative that the State should be vigilant in passing upon his qualifications. The field should only be open to those who possess the prescribed requirements. No one has a vested right to practice medicine free from State regulation and control. The right of a person to practice medicine is subject to the paramount power of the State to impose such regulations within the limitations of the Constitution as may be required to protect the people from ignorance, incapacity, deception or fraud in the practice of that profession."

As to one of the arguments urged by the petitioners, that it is not fair to subject a practicing physician to pass a technical examination which a medical student fresh from academic training would be better prepared to pass than a man in actual practice, the Court said

"We appreciate that there are physicians of standing in every community who perhaps might not be able to make ready answers with the same glibness as a tyro fresh from his books. Unquestionably, however, an examination would readily disclose a comprehensive knowledge of the fundamentals on their part. The results which petitioners attained in their examinations clearly spell inferiority and incompetency in the profession. A statute requiring itinerant physicians to submit to examination is justified by every consideration of public policy. Physicians who have

no fixed place of business, who are unknown to those to whom they tender their services and medicine, and who have no reputations for professional skill, honesty and fair dealing to maintain, should not be free to travel about the state in order to prey upon the fears and hopes of the afflicted and the unfortunate. The solicitation of patients by such physicians certainly is harmful to any community because of the opportunity it gives to them to discover ailments where none exist.

The Court also said

"To sustain the contention of petitioners would mean that any foreigner who can speak our language and who has been licensed to practice in a foreign country and who actually practiced there for a period of five

years could upon the moment of his arrival at the port of New York, demand the issuance of a license to him to practice his profession in this state. Surely that was never the intent of the legislature. Our own citizens must pursue a rigorous course of study and supply evidence of good character in order to practice medicine (Education Law, sections 1256, 1257), and yet, if petitioners are correct, any foreigner who was authorized to practice medicine in his native land can come into the State of New York and be immune from such requirements."

It should be noted that this decision was made by the Appellate Division and that it is possible that the matter may be carried to the Court of Appeals for its final determination.

## Treatment of Injury to Hand

A MAN who had been engaged in work on a construction job was referred to a general practitioner for the treatment of an injury to his hand sustained by him when he was struck in the hand with a pick. The doctor found a deep irregular laceration 1 inch long on the dorsal surface of the right hand with severe hemorrhage. Examination gave no evidence of dislocation or loss of function and for that reason no x ray was taken. Tetanus antitoxin was administered and the wound sutured and dressed. The doctor saw the man from time to time for a period of about two weeks and on each of those occasions the wound was sterilized and dressings applied.

It seems that later x rays were taken which revealed a fracture of the second metacarpal bone of the hand. Another physician treated that condition with splinting and physiotherapy and he was

discharged as being able to work at the end of about six weeks after the original injury.

The patient not only made claim for workmen's compensation payments but also instituted a malpractice action against the physician who first treated him based upon the claim that the defendant had negligently failed to diagnose the fracture. The defendant denied that he was in any way negligent and also set up as a special defense the fact that the plaintiff had obtained compensation for his injuries under the Workmen's Compensation Law.

The action never actually came on for trial as before it could be reached, plaintiff's counsel was persuaded that he would be unable to succeed, both because of the merits of the case and because of the special defense that payments of compensation had been received.

## Claimed Burn Following Treatment of Acne

A MIDDLE-AGED woman consulted a general practitioner with respect to a condition of acne which affected her face and forehead. The doctor found extensive eruptions of the pustular type and suggested the use of an ultraviolet lamp. She was given a four-minute exposure at a distance of 24 inches and a few days later was given a similar treatment, the exposure then being three minutes at a distance of 28 inches.

While later the doctor received a telephone call from the patient complaining that she had been burned by the treatment, he never saw her professionally thereafter. A malpractice action was instituted against the doctor charging him with negligently having caused the plain-

tiff to sustain serious burns leaving permanent scars.

A physical examination was made of the plaintiff and while certain scars were found on her face, in the opinion of the examining physician none of those scars could properly be attributed to ultraviolet treatment, but rather appeared to be the result of infection from the condition of acne.

Plaintiff's attorney, finding that no settlement of the case would be made on behalf of the doctor, failed to bring the action on for trial and in due course the action was dismissed by reason of the failure of the plaintiff to diligently prosecute the case.

---

## MORBIDITY RISES UNDER BRITISH INSURANCE

"The National Health Insurance Act was designed principally as an instrument to improve the standard of curative medicine in general practice by replacing the old club system of contract practice," said Dr. A. B. Walker, regional medical officer, Department of Health for Scotland, in an address at the 1938 health congress at Portsmouth, published in the *Journal of the Royal Sanitary Institute* (59: 511 [Jan.] 1939), and quoted in the *J. A. M. A.*

"It was reasonable to hope that this act, together with the improved environmental services, by providing early and effective treatment would have some effect, not only in diminishing the amount and duration of disabling illness, but also an important preventive element. Yet,

whilst sickness insurance on a national scale is a social service of proved value, it has not had these effects. Morbidity data available during the past few years show that incapacitating illness has tended to rise and with yearly fluctuations remains today at a new high level. This persistence of incapacitating illness amongst the insured population at a high general level, in spite of advances in preventive and curative medicine, is indicated in the successive Annual Reports on Incapacitating Sickness in the Insured Population, published by the Department of Health for Scotland. It is a fact which deserves the serious consideration of all interested in the public welfare."

---

A Spring course on general medicine has been arranged for the Sullivan County Medical Society. "Nephritis" and "Pneumonia," the subjects of the first 2 lectures on March 22 and 29, were given by Dr. John D. Lytle and Dr. Russell L. Cecil, respectively. On April 5, Dr. David D. Moore will speak on "Diabetes Mellitus" at the Woodbourne Institute in Woodbourne, N. Y., on April 12, at the Monticello Hospital in Monticello, there will be a general discussion of "Anemia, Both Primary and Secondary" by Dr. K. R. McAlpin, and on April 19, at Liberty, Dr. Albert Vanderveer will lecture on "Asthma." All of the speakers are from New York City.

The program for the Genesee County Medical Society course on general medicine is listed below. These lectures are given at the courthouse in Batavia, New York, on Wednesdays at 5:00 P. M. The first, on March 22, was on "Pneumonia" and the speaker was Dr. Henry V. Heyde of Syracuse. Dr. Charles B. F. Gibbs of Rochester delivered the second lecture on March 29, and his subject was "Diabetes Mellitus", on April 5, Dr. Clayton W. Greene of Buffalo will speak on "Nephritis", on April 12, Dr. Ellery G. Allen of Syracuse, on "Anemia", and on April 19, Dr. Will Cook Spain of New York City on "Asthma."

# Across The Desk

## California's Plan

SO MUCH discussion is rife about California's new medical plan that it may be worth while to take just a few minutes and see exactly what it is. Some seem to think that the Golden State has gone a bit unorthodox or heretical. But over against any such view we have the address of President W. W. Roblee, who told the delegates of the California Association on December 17, at Los Angeles, that Dr. Roscoe G. Leland, Director of the Bureau of Medical Economics of the American Medical Association, is here to advise with us," and "informs us that there are some 3,000 plans being sponsored in this country having to do with the problem of medical care." So the California plan may be said to have a pretty orthodox godfather. And *California and Western Medicine* reprints this United Press dispatch from Chicago:

'Chicago, December 18—(UP)—Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, said tonight that the California health insurance plan was in accordance with action taken by the American Medical Association's House of Delegates in Chicago last September.

'The delegates approved a plan for voluntary nonprofit cash indemnity insurance against the cost of sickness for people of the low income group,' Fishbein said.

'The California plan falls within this pattern.'

### Right or Wrong?

A medical scheme that looks right to some and wrong to others is worth scrutiny anyway. It is launched as a new and separate corporation named "California Physicians' Service," with "control of administration and policy of the plan to be vested in the medical profession through its representatives." The first board of trustees has elected Dr. Ray

Lyman Wilbur, president. Any Doctor of Medicine holding a valid certificate from the State Board of Medical Examiners may apply to be listed as a "professional member," so it will be in no sense a closed corporation. The 'beneficiary members' have complete freedom of choice in the selection of any Doctor of Medicine who serves under the plan. The organization is to operate on a nonprofit basis, and beneficiary membership is "to be open to all falling within the restricted income groups, as rapidly as arrangements can be made therefor." Hospital as well as medical care is included.

### Medical Fees on "Unit Basis"

An interesting feature is the remuneration of the doctors on a "unit basis." All the prepayments will be pooled, and when a doctor renders a service he will be paid by the number of units rendered. This is explained as meaning that a treatment for a minor illness would constitute a single unit, with ascending scale of units for a more serious illness or operation.

In adopting the program, the Association struck at so-called "chiselers" in the field of health insurance by voting to set up a special committee to pass on other health insurance plans with power to forbid members to affiliate with disapproved plans, but not to interfere with reputable groups.

President Roblee explains:

There will be absolutely no change in the traditional and ethical relationships between doctors and clients that now exist.

'A member of the group who is ill will go to his regular family doctor, who is a professional member. If upon diagnosis he is discovered to have appendicitis, for instance, he will be taken to the hospital of his choice and operated on by his physician in the regular manner.'

"The only difference is the doctor will collect his money from the corporation and the patient will have paid his fee automatically by his monthly insurance premiums "

The council disapproved a suggestion that the medical profession enter into an agreement with a group insurance company or a single company to carry out the plan. The report stated that to enter into such an agreement "inevitably subjects the medical profession to the domination of business capital "

### Not an Insurance Plan

The scheme is "not an insurance plan," insists *California and Western Medicine*. It explains

"Rather, it is a method which aims to make it possible for citizens of certain income classes, through periodic payments, to secure for themselves the professional services of physicians of their own choosing, exactly as they make such choice today, through payments rendered to the California Physicians' Service instead of to the doctors of medicine who gave the services. The California Physicians' Service, in turn, will then pay the physicians on what is called the unit basis

"The schedule of charges—or so-called fee table—to be used as the basis for payments will probably be one that is in accord with the averages in vogue for services rendered in California, and certainly not lower, and the payments to the physicians who have rendered service in a particular month will be on the 'unit basis'. Thus, to illustrate, if a certain service is rated as being entitled for remuneration, say, to the amount of five dollars, and the unit selected should be one dollar per unit, then the physician who had rendered and submitted a statement for five dollars

would be credited as eligible for repayment on the basis of five units. Whether the unit would measure up to 100 per cent (one hundred cents on the dollar) would depend upon the amount of money remaining in the fund after administrative and hospitalization services had been covered "

A sketch of the California plan printed in the San Francisco *Examiner* reveals further interesting features

"1. A provision that monthly fees to be charged may vary for the same medical and hospitalization service, according to the differing abilities of beneficiaries to pay

"2. Authorization to enter into contracts with the federal government, the state or any city or county for provision of medical and hospitalization service

"The provision for differing fees will enable the service to extend health insurance into the very lowest income brackets as the plan develops, in the opinion of analysts of the plan. The contract authorization will enable the service to extend service even to indigents, by arrangement with governmental authorities

"Medical service now provided to SRA clients and to migrants and farm workers through various federal agencies may be taken over by the State Association organization, under this authorization, the governmental agencies responsible now for their care footing the bill

"Fixing the upper income limit beyond which persons may not be eligible to the insurance rests with the service's board of governors, still to be elected. Although \$2,500 has been discussed, informed observers believe the limit will be set as high as \$3,500 or \$4,000 when finally determined in order to extend the benefits of the plan as widely as possible "

---

"The Medical Board told me to leave the hospital on account of the manner in which I spoke to that patient in the O P D, I suppose. I

merely said, 'You needn't open your mouth any wider. When I examine your tonsils I expect to stand on the outside' "—*The American Interne*

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue Brooklyn N Y. Acknowledgment of receipt will be made in these columns and deem sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**Orthopedic Appliances.** The Principles and Practice of Brace Construction for the Use of Orthopedic Surgeons and Bracemakers By Henry H Jordan, M.D. Octavo of 412 pages illustrated. New York Oxford University Press, 1938. Cloth, \$4.00

**Chemistry in Relation to Biology and Medicine with Especial Reference to Insulin and Other Hormones.** The Willard Gibbs Lecture by John Jacob Abel. Octavo of 79 pages. Baltimore, The Williams & Wilkins Company 1938. Cloth.

**Scarlet Fever** By George F. Dick, M.D. and Gladys H. Dick, M.D. Octavo of 149 pages illustrated. Chicago The Year Book Publishers, Inc. 1938. Cloth, \$2.00

**The Abnormal in Obstetrics.** By Sir Comyns Berkeley, M.D. Victor Bonney, M.D. and Douglas MacLeod, M.B. Octavo of 525 pages. Baltimore, William Wood & Company 1938. Cloth, \$6.00

**The Treatment of Fractures.** By Charles L. Scudder, M.D. Eleventh edition. Octavo of 1,208 pages, illustrated. Philadelphia W. B. Saunders Company 1938. Cloth \$12.00

**Biographies of Child Development.** The Mental Growth Careers of Eighty-four Infants and Children. A Ten Year Study from the Clinic of Child Development at Yale University. Part One by Arnold Gesell, M.D. Part Two by Catherine S. Amatruda, M.D. Burton M. Castner, Ph.D. and Helen Thompson, Ph.D. Octavo of 328 pages illustrated. New York Paul B. Hoeber Inc. 1939. Cloth \$3.75

**Surgery of the Ear** Samuel J. Kopetzky, M.D. Editor. Quarto of 456 pages, illustrated. New York, Thomas Nelson and Sons 1938. Cloth \$12.00 (Loose leaf)

**Outline of Psychiatric Case-Study** A Practical Handbook. By Paul W. Preu, M.D. Duodecimo of 140 pages. New York Paul B. Hoeber Inc. 1939. Cloth, \$1.85

**The Chemistry of Natural Immunity** By William F. Koch, M.D. Duodecimo of 199 pages, illustrated. Boston, The Christopher Publishing House 1938. Cloth \$2.00

**Everyday Surgery** By Lambert Rogers, F.R.C.S. and A. L. D. Abreu, F.R.C.S. Octavo

of 280 pages illustrated. Baltimore William Wood & Company 1938. Cloth \$4.75

**Life's Beginning on the Earth.** By R. Beutner, M.D. Octavo of 222 pages illustrated. Baltimore The Williams & Wilkins Company 1938. Cloth, \$3.00

**Midwifery** By Ten Teachers. Under the direction of Clifford White, M.D. Edited by Sir Comyns Berkeley, Clifford White and Frank Cook. Sixth edition. Octavo of 676 pages, illustrated. Baltimore, William Wood & Company 1938. Cloth, \$8.00

**The Essentials of Modern Surgery** Edited by R. M. Handfield Jones, M.C. and A. E. Porritt, M.A. Quarto of 1,126 pages, illustrated. Baltimore William Wood & Company 1938. Cloth \$9.00

**Psychopathic States.** By D. K. Henderson, M.D. Octavo of 178 pages. New York W. W. Norton & Company Inc. 1939. Cloth, \$2.00

**The School Health Program** By C. E. A. Winslow. Octavo of 120 pages. New York The Regents Inquiry (McGraw Hill Book Company Inc.) 1938. Cloth, \$1.50

**Pastoral Psychiatry** By John S. Bonnell. Octavo of 237 pages. New York, Harper & Brothers 1938. Cloth \$2.50

**Annual Report of the Public Health Commissioner with the Government of India for 1936** Volume I. Quarto of 351 pages. New York, The British Library of Information, 1938. Paper 3/6

**A Textbook of Neuro-Radiology** By Cecil P. G. Wakeley, F.R.C.S. and Alexander Orley, M.D. Quarto of 336 pages, illustrated. Baltimore, William Wood & Company 1938. Cloth \$3.00

**The Diagnosis and Treatment of Diseases of the Thyroid.** By James H. Means, M.D. and Edward P. Richardson, M.D. (Reprinted from Oxford Monographs on Diagnosis and Treatment) Octavo of 367 pages, illustrated. New York Oxford University Press 1938. Cloth \$5.00

**Principles of Hematology** with 100 illustrative cases and 155 illustrations including 168 original photomicrographs and 95 original charts and drawings. By Russell L. Haden, M.D. Octavo



of 348 pages, illustrated. Philadelphia, Lea & Febiger, 1939 Cloth, \$4 50

**A Manual of Fractures and Dislocations.** By Barbara B Stimson, M D Duodecimo of 214 pages, illustrated Philadelphia, Lea & Febiger, 1939 Cloth, \$2 75

**Gould's Pocket Pronouncing Medical Dictionary** By the late George M Gould, M D Eleventh edition revised by C V Brownlow 16 mo Philadelphia, P Blakiston's Son & Company, 1939 Cloth, \$2 00

**Alcohol in Moderation and Excess A Study of the Effects of the Use of Alcohol on the Human System** By J A Waddell, M D, and H B Haag, M D Octavo of 184 pages, illustrated Richmond, Virginia, The William Byrd Press, Inc, 1938 Cloth, \$1 00

**Sir Thomas Roddick His Work in Medicine and Public Life** By H E MacDermot, M D Octavo of 160 pages, illustrated New York, The Macmillan Company, 1938 Cloth, \$2 00

**The Medical Press and Circular, 1839-1939 A Hundred Years in the Life of a Medical Journal** By Robert J Rowlette, M D Quarto of 127 pages London, W C 2, The Medical Press and Circular, 8 Henrietta Street, 1939 Cloth

**Surgical Pathology of the Diseases of the Mouth and Jaws.** By Arthur E Hertzler, M D Octavo of 248 pages, illustrated Philadelphia, J B Lippincott Company, 1938 Cloth, \$5 00

**Recent Advances in Chemotherapy** By G M Findlay, M D Second edition Octavo of 523 pages Philadelphia, P Blakiston's Son & Co, 1939 Cloth, \$5 00

**You and Heredity** By Amram Scheinfeld assisted in the genetic sections by Dr Morton D Schweitzer Octavo of 434 pages, illustrated New York, Frederick A Stokes Company, 1939 Cloth, \$3 75

**Roentgen Diagnosis of the Extremities and Spine** By Albert B Ferguson, M D Volume 17 of a series of monographic atlases of the "An-

nals of Roentgenology" Quarto of 435 pages, illustrated New York, Paul B Hoeber, Inc, 1939 Cloth, \$12 00

**Oh, Doctor! My Feet!** By Dudley J Morton, M D Duodecimo of 116 pages, illustrated New York, D Appleton-Century Company, 1939 Cloth, \$1 50

**The Language of the Dream** By Emil A Gutheil, M D Octavo of 286 pages New York, The Macmillan Company, 1939 Cloth, \$3 50

**Refraction of the Human Eye and Methods of Estimating the Refraction** By James Thorington, M D Third edition Octavo of 412 pages, illustrated Philadelphia, P Blakiston's Son & Company, 1939 Cloth, \$3 50

**Iodine Metabolism and Thyroid Function.** By A W Elmer, M D Octavo of 605 pages New York, Oxford University Press, 1938 Cloth, \$10 00

**Landmarks in Medicine** Latty Lectures of the New York Academy of Medicine. Introduction by James A Miller, M D Duodecimo of 347 pages, illustrated New York, D Appleton Century Company, 1939 Cloth, \$2 00

**Whitla's Dictionary of Treatment** Including Medical and Surgical Therapeutics Eighth edition by R S Allison, M D, and C A Calvert, M B Octavo of 1,285 pages Baltimore, William Wood & Company, 1939 Cloth, \$9 00

**Symptoms and Signs in Clinical Medicine** An Introduction to Medical Diagnosis By E Noble Chamberlain, M D Second edition Octavo of 435 pages, illustrated Baltimore William Wood & Company, 1938 Cloth, \$8 00

**A Synopsis of Medicine** By Henry Letheby Tidy, M D Seventh edition Duodecimo of 1,187 pages Baltimore, William Wood & Company, 1939 Cloth, \$6 00

**Surgical Treatment of Hand and Forearm Infections.** By A C J Brickel, M D Quarto of 300 pages, illustrated St Louis, The C V Mosby Company, 1939 Cloth, \$7 50

## REVIEWED

**The Treatment of Diabetes Mellitus** By Elliott P Joslin, M D Sixth edition, thoroughly revised Octavo of 707 pages, illustrated Philadelphia, Lea & Febiger, 1937 Cloth, \$7 00

Joslin's book on *The Treatment of Diabetes* is one of the classics of modern medi-

cine, the successive editions marking in a general way the successive advances in the treatment of the disease. The fifth edition summarized the author's wealth of experience in the use of the original insulin of Banting and his collaborators, but a note announced the discovery of

protamine insulin by Hagedorn The sixth edition reports the experience in the treatment of more than 1,200 cases with this agent. Even as this sixth edition came off the press, crystalline zinc insulin and, more recently, protamine zinc insulin and histone and globin insulins have been reported The medical profession, while welcoming the present volume, will look forward to the time when Dr Joslin's experience with these latter products will warrant the presentation of the seventh edition

CARL H GREENE

*Surgery of the Ear* Samuel J Kopetzky M.D Editor Quarto of 456 pages, illustrated. New York Thomas Nelson and Sons 1938 Cloth, \$12.00 (Loose leaf)

This reference work on surgery of the ear, by a group of distinguished otologists, under the editorship of Kopetzky, represents a fine assembly of our present-day knowledge of this subject.

Otologists will feel that such a work is incomplete without a chapter by Eagleton, who is recognized as a foremost thinker and contributor in the field of otologic surgery

Endauricular mastoidectomy, which has not yet proved its worth, is given more space than it deserves This is also true of acute hemorrhagic mastoiditis, which is treated at length, out of proportion to the frequency of its occurrence

The chapter by Ersner on diagnosis constitutes a fine monograph in itself Other sections worthy of special mention are those on Surgical Anatomy of the Temporal Bone by Batson, Surgery of the Facial Nerve by Tickle, and Surgery of Brain Abscess by Davidoff

The chapter dealing with otosclerosis by Holmgren deserves special mention, particularly because of his clear presentation of every aspect of the subject. There is no element of evasion or misrepresentation when he frankly admits that the surgery of otosclerosis is still in the experimental stage and when he states the story of his failures.

This book will serve as a guide for post graduate teaching and study, and will be

a valuable source of reference for the otologist and cranial surgeon

The paper, the printing, and the illustrations are of high quality

M C MYERSON

*The Single Woman and Her Emotional Problems.* By Laura Hutton, M.R.C.S Second edition. 16 mo of 173 pages Baltimore William Wood & Company 1937 Cloth, \$1.50

This little book is unique in that it may be read with equal profit by the physician as well as the single woman Dr Hutton is a psychologist, whether she is a single woman or not the reviewer is in no position to say, yet it is apparent that she understands fully the single woman's problems

Loneliness, the result of frustration of the deep instinctive need of marriage and motherhood, is the crux of the problem Woman's work does not meet her need The difficulties and emotional conflicts of her life are thoroughly discussed in the most gentle, sympathetic manner imaginable This book is highly recommended Every physician will certainly grow in understanding by reading it.

CHARLES A. GORDON

*The Occupational Treatment of Mental Illness.* By John I Russell M.B Octavo of 231 pages, illustrated Baltimore William Wood & Company 1938. Cloth \$2.50

This book, by the head of one of England's outstanding psychiatric hospitals, deals with the problem of occupational therapy from a practical and technical point of view There is little in the book to indicate the psychologic needs for it, the medical basis for diversity or any particular kind of therapy, or the measurement of the effect in some way on the patient or the community The value of occupational therapy is taken for granted traditionally and otherwise. Once accepted, the author proceeds to a detailed discussion of the organization of hospital wards and types of patients into work therapy units, kind and training of personnel, types and details of the occupations exploited

Whatever value occupational therapy has been, it has lifted psychiatric hos

pitals out of the custodial class Facility in keeping patients unobtrusively and cheaply herded behind bars was formerly the hallmark of institutional heads Today, psychiatric hospitals are neither too small nor too large to be examples of community activity Accordingly, the author considers almost every form of pleasurable as well as nonpleasurable activity as a form of therapy, and rightly so The idea is to keep individuals, as members of groups, adapted to whatever form of reality suits their condition and station Another specialist in such therapeutics will some day show what insight it affords into the actual problems of the individual patients and thus disclose means of further treatment.

SAM PARKER

**Food and Physical Fitness** By E W H Cruickshank, M D Duodecimo of 148 pages Baltimore, William Wood & Company, 1938 Cloth, \$2 00

In his introduction the author cites that 50 per cent of the people of the United Kingdom are living on an inadequate diet, and that in the United States, despite the consumption of much milk, large sections of the population have been existing on a deficient dietary He proceeds in a systematic way to give a clear elementary conception of nutrition and the utilization of foods in relation to physical fitness There are a few simple tables that can be used by any physician or layman

While the book is of a small pocket size, there is a lot of worthwhile information The last three chapters on vegetarianism, food economics, and undernutrition and its relation to diet are a worthy conclusion to this volume

MORRIS ANT

**Electrotherapy and Light Therapy** By Richard Kovács, M D Third edition Octavo of 744 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$7 50

The third edition of this work is, as the author states in his preface, almost encyclopedic in character

The author attempts to make a com-

plete exposition of the old as well as the new in electrotherapy and light therapy It is not a book which one can run and read It requires careful perusal and sustained thought

His chapter on electrodiagnosis is up to the minute The book is a worthwhile contribution to medical literature

JOHN J HAUFF

**Text-Book of Nutrition** By J A Nixon, M D, and Doreen G C Nixon, M B Octavo of 219 pages New York, Oxford University Press, 1938 Cloth, \$2 75

The object in compiling this book is to correlate the established facts on nutrition from the physiologic, clinical, and economic standpoint. It is an effort to present consideration of what the body does with food

The book is well written in an easy and interesting style The subject matter covers the field of nutrition adequately for doctors in general practice, nurses, dieticians, and students in domestic economy For this group there is much valuable information This work may be recommended to the lay reader, as the subject of diet prescription is only on general principles which are sound

This book is decidedly English and will appeal especially to British subjects It is recommended particularly because of being one of the few books on nutrition to present the extremely important factor of what the individual does with the food he eats and not the usual mass of material on the chemistry and caloric values of the foodstuffs as determined in the laboratory

PAUL C ESCHWEILER

**Industrial Surgery, Principles, Problems and Practice** By Willis W Lasher, M D Octavo of 452 pages, illustrated New York, Paul B Hoeber, Inc, 1938 Cloth, \$6 00

This work contains in comparatively few pages a surprising amount of helpful medical knowledge and hints It deals with a relatively new subject, which it comprehensively covers, and should be in the hands of all those who are interested in the care and management of the in-

jured worker The first chapter gives an ideal setup for the medical department of an industrial plant, and should be of help to those contemplating such a department. Valuable suggestions of interest to industrial surgeons, such as tables for figuring percentages of functional losses resulting from injuries, are found throughout the book. The subjects of joint injuries and fractures are taken up in such a manner as to make the book a reference for the profession. It is a book which cannot be too highly recommended.

PIERRE A. RENAUD

The American Illustrated Medical Dictionary By W. A. Newman Dorland, M.D. Eighteenth edition. Octavo of 1607 pages illustrated Philadelphia, W. B. Saunders Company 1938. Cloth, \$7.00 Plain and \$7.50 with Thumb Index.

New revisions of this standard medical dictionary are always welcomed. With developments in medicine come changes in its language. New terms are constantly appearing in medical literature, hence the necessity for frequent revisions of a work of this type.

More than 3,000 new words have been included in this edition as well as improved definitions necessitating an increase of sixty pages. The Editorial Staff of the American Medical Association, under the direction of Dr. Morris Fishbein, has cooperated in this revision. With its many excellent features and abundance of illustrations and portraits, it maintains its place after thirty-eight years of continual use as one of the outstanding reference works in the field of medicine.

CHARLES FRANKENBERGER

Clinical Laboratory Methods and Diagnosis. A Textbook on Laboratory Procedures with Their Interpretation. By R. B. H. Gradwohl, M.D. Second edition. Quarto of 1607 pages, illustrated. St. Louis, The C. V. Mosby Company 1938. Cloth, \$12.50.

This single volume of 1,607 pages, each measuring  $10 \times 6\frac{1}{2} \times 3\frac{1}{4}$  inches, is truly an encyclopedic collection of information in the field of clinical laboratory

methods and diagnosis. The first edition of this work is indeed small by comparison. Yet the increase in size in the second edition is due to the inclusion of many valuable items, and indicates the rapid and important progress that is being made in the laboratory specialty.

This work, like the first edition, is a compilation of directions for the laboratory director and clinical laboratory technician alike. Not only are the methods most desirable in the opinion of the author described, but in many places the interpretations and comments of authorities on the subject are given, frequently verbatim. References to original and key articles are frequently cited, and in the place where they are most conveniently located—at the foot of each page. The criticism offered in the review of the first edition bears repetition, namely, the too frequent use of the personal pronoun. Somehow, it robs the text of its greatest effectiveness.

The book, as a whole, deserves commendatory praise. It surely is complete, and certain sections are outstanding. Thus the chapter on parasitology is beautifully illustrated, and supplies a long felt need to the laboratory technician in the identification of parasites and their ova. The illustrations as a whole are of a high order, and clearly picture and support the text. Of especial interest are the colored plates, those of blood cells, cultures, bacteria, and parasites being exceptionally true to the originals.

The book can be recommended to all students and workers in clinical laboratories as a ready reference handbook unusually valuable in its completeness and scope. Certainly no laboratory, doing everyday medical laboratory work, should be without it.

MAX LEDERER

A Diabetic Primer for Children. By Alfred E. Fischer, M.D. Second edition. Octavo of 55 pages, illustrated. New York, Dr. Alfred E. Fischer 1938. Paper, 75¢.

The doctor has carried out his intentions very well. These are indicated by

the title It would seem that this gives a diabetic child all the general advice he should have provided The rest is personal and individual

W D LUDLUM

**Chemistry of the Brain** By Irvine H Page, M D Quarto of 444 pages, illustrated Springfield, Charles C Thomas, 1937 Cloth, \$7 50

The author, in this comprehensive review of the chemistry of the brain, has approached the subject from a broad biochemical and physiologic viewpoint. This is particularly welcomed at a time when a voluminous literature on problems pertaining to diseases of the nervous system makes it nearly impossible for the average practitioner to keep abreast

The first chapter of the book is devoted to the older literature on the subject with special reference to the life and works of Thudichum (1828-1901), "father of brain chemistry" Subsequent chapters deal with each of the major chemical constituents of nervous tissue sterols, phosphatides, fatty acid metabolism, carbohydrates, nitrogenous metabolism, electrolytes and gases, physical chemistry, enzymes of the brain, comparative and developmental neurochemistry, metabolism as measured by gas interchange, pathologic gaseous metabolism, degeneration of the nervous system, and a chapter by J H Quasted on oxidations in the brain Added to this is a short final chapter on "The Brain and Thought"

The material has been well selected and appraised The book should serve as a useful reference for anyone desiring orientation in this particular field

JEFFERSON BROWDER

**Emergency Surgery** By Hamilton Bailey, F R C S Third edition Octavo of 852 pages, illustrated Baltimore, William Wood and Company, 1938 Cloth, \$14 00

In reviewing this book, one is impressed by the large number of conditions described and the emergency treatment outlined

It must be remembered that in a book of this size details of a procedure are often lacking

The treatments described have been brought up to date in view of our advanced knowledge

JOHN M SCANNELL

**The Heart in Pregnancy** By Julius Jensen, Ph D Quarto of 371 pages, illustrated St. Louis, The C V Mosby Company, 1938 Cloth, \$5 50

This book is exactly what it purports to be, "a thorough review of existing evidence" The functional state of the heart is, of course, held to be of far greater importance than organic defect The author has thoroughly combed the world literature, reduced it to its simplest forms, and drawn conclusions which are never dogmatic The text is amazingly comprehensive and written in clear and simple style One is surprised to find that so many things which we all accept have not yet been proved, as, for instance, the low blood pressure of pregnancy The obstetrician who has access to a large amount of clinical material will find this book very stimulating and valuable. David Barr, in his foreword, says that "even those with relatively extensive organic damage may, by adequate protection and medical care, complete pregnancy and bear children without evident permanent damage"

An excellent book—we have never had anything like it up to now

CHARLES A GORDON

**Diabetes Insipidus and the Neuro-Hormonal Control of Water Balance A Contribution to the Structure and Function of the Hypothalamico-Hypophyseal System.** By Charles Fisher, Ph D, W R Ingram, Ph D, and S W Ranson, M D Quarto of 212 pages, illustrated Ann Arbor, Edwards Brothers, 1938 Cloth, \$5 00

This book is of infinite importance from a scientific point of view In the first place, it offers original experimentation and proof of the cause of diabetes insipidus It is so convincing it leaves no doubt that diabetes insipidus is a disease caused by the deficiency of one of the hypophyseal hormones And secondly, it brings the entire literature of diabetes insipidus up to a last-minute critical analysis The authors are to be

congratulated upon their addition of another specific factor in fluid metabolism.

MORRIS ANT

**The Development of the Vertebrate Skull**  
By G. R. deBeer, M.A. Quarto of 552 pages with 143 plates, illustrated. New York, Oxford University Press 1938. Cloth \$10.00

This volume will be hailed among comparative anatomists as the most systematic and thoroughgoing work dealing with the development of the vertebrate skull. The theoretic, descriptive, and experimental aspects of embryology have been aptly combined with contributions from paleontology in considerations which begin at the lower end of the animal scale, among those forms possessed of a notochord and of a strictly cartilaginous skull (Cyclostomes and Elasmobranchii), continuing through to the combined bony and cartilaginous skull represented in the highest forms, including man.

The thread weaving its way through the entire volume is the systematic support of the segmental hypothesis of the origin and structure of the skull. The historical introduction will prove of great value to the student of anatomy. The illustrations are clear and illuminating and provide an adequate graphic supplement to the text proper. Altogether, the volume will receive wholehearted indorsement from those interested in the more academic aspects of embryology and morphology of the cranium.

RUSSELL MEYERS

**The Rheumatic Diseases. A Course of Lectures arranged by the Medical Staff of the St. John Clinic and Institute of Physical Medicine.** Edited by Sir Leonard Hill, M.B. and Philip Kilman, M.D. Octavo of 270 pages, illustrated. Baltimore: William Wood and Company, 1938. Cloth, \$4.00

This book consists of a course of lectures arranged by the Medical Staff of the St. John Clinic and Institute of Physical Medicine, England. Fifteen contributors of considerable eminence have made this a worthwhile summary of our present knowledge on the subject of rheumatic infection, chronic infectious arthritis, osteoarthritis, menopausal arthritis, and

allied states. The etiologic and clinical features are excellently given. The economic aspects are stressed. The importance of focal infection in the nose and throat and, what may be a great surprise to the average reader, the uterine cervix are thoroughly gone into. The chapters on pathology, x-ray, bacteriologic and chemical aspects come in for their share of attention. About 40 per cent of the book is devoted to treatment, particularly physiotherapy, light therapy, local and general ultraviolet irradiation, hydrotherapy, orthopedic and surgical treatment. Occasionally, the individual authors are not in complete agreement, particularly as to etiology and pathology. There is much with which the reader may not be in full accord. However, all of this acts as a stimulant to the interest excited by this fine little volume on diseases which are of so much importance to the medical profession and community.

M. A. RABINOWITZ

**Mental Therapy Studies in Fifty Cases**  
By Louis S. London, M.D. Volumes I & II. Octavo of 774 pages illustrated. New York: Covici Friede, 1937. Cloth \$12.50

The recent surge of successful biochemical treatment methods in psychiatry, particularly for the psychoses, has taken some more wind out of the sails of the dynamic psychologists and spoiled the effectiveness of such works as Dr. London has labored to produce. The net value of exhaustive case histories then appears to be as illustrative material for psychological theories, rather than as examples of adequate diagnostic or treatment systems. Notwithstanding, Dr. London must be credited with a painstaking job of piecing together the actual workaday material of psychoanalytic therapy. This alone appears worthwhile as an indication of what complicated obstacles and symptoms face the mental therapist in those cases where psychotherapy is definitely a method of choice. Otherwise, the two volumes are reminders of Stekel, but without Stekel's interminable and exhausting details.

SAM PARKER

**Diseases of the Blood** By Cyrus C Sturgis, M D, and Raphael Isaacs, M D Edited by Morris Fishbein, M D (National Medical Monographs) Duodecimo of 302 pages New York, National Medical Book Co, Inc, 1937 Cloth, \$3 00

This is an excellent monograph for the general practitioner—excellent because it deletes the illustrations and technical data of an atlas or laboratory manual, and devotes its content to practical diagnosis and treatment.

The interpretation of blood data is as lucid and admirable a chapter as has been reviewed The emphasis upon the various diseases of the blood or hematopoietic organs has been properly stressed, and is noted by the parallel existing in clinical importance and chapter length Suggested for practical value rather than as source material are the references from English-written books and journals The entire book is authoritative, complete but concise and factual It well deserves its place among the most useful books of any practitioner

IRVING M DERBY

**Hemorrhoids** By Marion C Pruitt, M D Quarto of 170 pages, illustrated St. Louis, The C V Mosby Company, 1938 Cloth, \$4 00

The author of this monograph is well qualified to undertake a description and evaluation of the electric, injection, and operative methods of treating hemorrhoids The chapter on differential diagnosis is worth special note.

The book is recommended to the proctologist as well as to the general practitioner

CHARLES GOLDMAN

**Massage and Remedial Exercises in Medical and Surgical Conditions.** By Noël M Tidy Third edition Octavo of 456 pages, illustrated Baltimore, William Wood and Company, 1937 Cloth, \$5 25

This work is a complete text for the advanced student of physical education

It combines a review of fractures, dislocations, and diseases and injuries of the muscular, nervous, and osseous systems

with their aftercare, including emergency and physical methods of treatment.

There is also a short description following each type of injury of the surgical technic to be employed In the extensive chapters on diseases of the bones and joints, fractures and dislocations there is no question left unanswered though in very concise form

Of the many books reviewed, one would be attracted to this work in particular because of its clear presentation and its numerous illustrations It might serve well as a handy reference to those prescribing aftercare in orthopedic and traumatic surgery, not overlooking its importance to the internist.

JOSEPH I NEVIMS

**Clinical Chemistry in Practical Medicine** By C P Stewart, M Sc, and D M Dunlop, M D Second edition Duodecimo of 372 pages, illustrated Baltimore, William Wood and Company, 1937 Cloth, \$4 00

This book deals with various chemical tests which have proved to be of value in the diagnosis, treatment, and prognosis of disease The circumstances in which a chemical examination may be of service, the interpretation and significance to be placed on the result of such an examination, and the technic of obtaining the specimens to be sent to the laboratory for analysis are clearly presented It explains the various chemical analyses, and gives in detail many of the simpler tests which do not require much time and equipment There are chapters dealing with basal metabolism, hydrogen ion concentration, sugar tolerance, and other chemical tests in the treatment of diabetes Various stomach disorders with the findings on gastric analyses, renal function tests, liver function tests, and their interpretation are clearly described, and make interesting reading

EDWARD H NIDISH

**A Textbook of Pathology An Introduction to Medicine** By William Boyd, M D Third edition, thoroughly revised Octavo of 1,064 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$10 00

The arresting style of Dr Boyd as well as the scholarly content of his pathologic texts are too well known for elaborate exposition. Reclassifications (a new section), and much new material has been added in this edition without material increase in size. This has been possible by reduction of type size in some sections, notably those relating clinical symptoms to pathologic lesions—one of the most commendable features of the work.

It is a full but well balanced presentation of general and special pathology brought well up to-date—a pathology not merely of the dead but of the living individual with clinical symptoms. The many illustrations are original, mostly photomicrographic, and nicely reproduced. Those illustrating the grading of carcinomas are particularly selected for approval. Intended primarily as a text book for students of medicine, it will prove a valuable asset to the practitioner's library for personal clinicopathologic conference, for references, and just for reading.

IRVING M. DERBY

**Heart Disease in General Practice** By Paul D. White, M.D. Edited by Morris Fishbein, M.D. (National Medical Monographs) Duodecimo of 838 pages, illustrated. New York, National Medical Book Co. Inc. 1937. Cloth \$3.00.

This pocket-size volume is a vade mecum of cardiology. Whether we like the question-and-answer type of book or not, this text is a remarkable presentation of modern cardiovascular concepts. For both family physician and consultant it will serve as a valuable review.

White emphasizes the value of a complete and thorough history, stating that a diagnosis reasonably accurate and complete can be made from history alone in 50 per cent of all heart cases. To the physical examination he attaches a 35 per cent value, to the electrocardiogram 10 per cent, and to the x ray revelations 5 per cent. He thinks palpation of least importance, but believes in percussion in the routine examination, and advises paying heed to all murmurs.

We quote as follows: 'One may derive much more information from the character of the heart sounds than from the finding of heart murmurs, yet it is astonishing how often the doctor rests content if he hears no murmurs, even with valuable information about the state of the heart from the sounds alone right at hand.' This implies skillful use of the stethoscope, and surely with the more complete study of murmurs and heart sounds today than at any time since the electrocardiograph was developed, it is proper to say that the stethoscope is in its renaissance.

Treatment is most excellently handled in a section of sixty nine pages, six being devoted to the therapy and management of coronary closure. The book closes with forty three pages dealing with cardiovascular emergencies.

FRANK BETHEL CROSS

**The Psychology of Speech.** By Jon Eisenson. Octavo of 280 pages. New York: F. S. Crofts & Company 1938. Cloth, \$2.25.

Speech is of great social significance, and its psychologic implications are of major importance. Eisenson in this book attempts, as he states in his preface, to present the principles of psychology which underlie the problems of speech.

The author is a psychologist and, as a result, he frequently uses a good deal of space describing detailed experiments which illustrate such psychologic concepts as development of learning, memory, thought, etc. Too little space, however, is devoted to the relationship between these processes and that of speech.

There seems too great a simplification of the problems of speech pathology. For example, the author cites a case of neurotic hoarseness in a child which was cured in one session by "magic incantation."

It can be said that the book offers a thorough review and collection of psychologic data which the author applies to the subject of speech.

ISAAC W. KARLIN



# Officers of County Societies

TOTAL MEMBERSHIP—APRIL 1, 1939—16,447

| County      | President        |               | Secretary      |                  | Treasurer        |                  |
|-------------|------------------|---------------|----------------|------------------|------------------|------------------|
| Albany      | J S Lyons        | Albany        | H L Nelms      | Albany           | F E Vosburgh     | Albany           |
| Allegany    | P L Morrison     | Bolivar       | E F Comstock   | Wellsville       | R W Blaisdell    | Wellsville       |
| Bronx       | E P Flood        | Bronx         | H Friedland    | Bronx            | J A Keller       | Bronx            |
| Broome      | C L Pope         | Binghamton    | R C Bates      | Binghamton       | E R Dickson      | Binghamton       |
| Cattaraugus | T J Holmlund     | Cattaraugus   | L E Reimann    | Franklinville    | L E Reimann      | Franklinville    |
| Cayuga      | L F O'Neill      | Auburn        | S J Karpenski  | Auburn           | R J Thomas       | Auburn           |
| Chautauqua  | DeF W Buckmaster | Jam'town      | E Bieber       | Dunkirk          | F J Pfisterer    | Dunkirk          |
| Chemung     | R Breguet        | Elmira        | R J Lawler     | Elmira           | S L Larson       | Elmira           |
| Chenango    | D U Gould        | Sherburne     | J H Stewart    | Norwich          | J H Stewart      | Norwich          |
| Clinton     | E Wessell        | Plattsburg    | T R Marvin     | Plattsburg       | K M Clough       | Plattsburg       |
| Columbia    | L J Early        | Hudson        | H C Galster    | Hudson           | H C Galster      | Hudson           |
| Cortland    | M R French       | Cortland      | D R Reilly     | Cortland         | B R Parsons      | Cortland         |
| Delaware    | W H F Newman     | Stamford      | O Q Flint      | Delhi            | O Q Flint        | Delhi            |
| Dutchess    | S L Smith        | Poughkeepsie  | H P Carpenter  | Poughkeepsie     | H P Carpenter    | Poughkeepsie     |
| Erie        | C E Wertz        | Buffalo       | L W Beamis     | Buffalo          | R L Scott        | Buffalo          |
| Essex       | V R McCasland    | Moriah        | H J Harris     | Westport         | H J Harris       | Westport         |
| Franklin    | E M Austin       | Tupper Lake   | D C H Van Dyke | Malone           | D C H Van Dyke   | Malone           |
| Fulton      | J A Shannon      | Johnstown     | L Tremante     | Gloversville     | D M McMartin     | Johnstown        |
| Genesee     | G H Knoll        | LeRoy         | P J Di Natale  | Batavia          | P J Di Natale    | Batavia          |
| Greene      | G L Branch       | Catskill      | W M Rapp       | Catskill         | M H Atkinson     | Catskill         |
| Herkimer    | G A Burgin       | Little Falls  | F C Sabin      | Little Falls     | A L Fagan        | Herkimer         |
| Jefferson   | J E McAskill     | Watertown     | C A Prudhon    | Watertown        | W F Smith        | Watertown        |
| Kings       | P I Nash         | Brooklyn      | T B Wood       | Brooklyn         | M J Dattelbaum   | Brooklyn         |
| Lewis       | E O Boggs        | Lowville      | H Stein        | Castorland       | H Stein          | Castorland       |
| Livingston  | H F Hulbert.     | Dansville     | A J Townsend   | Dansville        | A J Townsend     | Dansville        |
| Madison     | E Freshman       | Oneida        | L S Preston    | Oneida           | E W Carpenter    | Oneida           |
| Monroe      | C V Costello     | Rochester     | W A MacVay     | Rochester        | J J Rooney       | Rochester        |
| Montgomery  | L H Finch        | Amsterdam     | W R Pierce     | Amsterdam        | R Conant         | Amsterdam        |
| Nassau      | L H Bauer        | Hempstead     | E K Horton     | Rockville Centre | E K Horton       | Rockville Centre |
| New York    | H Fox            | N Y City      | B W Hamilton   | N Y City         | K Dwight         | N Y City         |
| Niagara     | H U Cramer       | Lockport      | F W Barry      | Lockport         | F W Barry        | Lockport         |
| Oneida      | P P Gregory      | Rome          | J I Farrell    | Utica            | H D MacFarland   | Utica            |
| Onondaga    | L E Sutton       | Syracuse      | D V Needham    | Syracuse         | A C Hofmann      | Syracuse         |
| Ontario     | A W Armstrong    | Canandaigua   | D A Eiseline   | Shortsville      | D A Eiseline     | Shortsville      |
| Orange      | H F Morrison     | Tuxedo Park   | E C Waterbury  | Newburgh         | E C Waterbury    | Newburgh         |
| Orleans     | A W Jackson      | Albion        | J J Layer      | Lyndonville      | J A Elson        | Albion           |
| Oswego      | K W Jarvis       | Oswego        | J J Brennan    | Oswego           | J B Ringland     | Oswego           |
| Otsego      | J H Powers       | Cooperstown   | F J Atwell     | Cooperstown      | F E Bolt         | Worcester        |
| Putnam      | R M Hall         | Cold Spring   | J T Jenkin.    | Lake Mahopac     | A Vanderburgh    | Brewster         |
| Queens      | J Wrana          | Jamaica       | F R Mazzola    | Jamaica          | D J Swan         | Flushing         |
| Rensselaer  | W T Shields, Jr  | Troy          | L S Weinstein  | Troy             | J F Russell      | Troy             |
| Richmond    | F M Schwerd      | Princes Bay   | J K Lucey      | Stapleton        | C J Becker       | W New Brighton   |
| Rockland    | J Pomerantz      | Spring Valley | W J Ryan       | Pomona           | D Miltmore       | Nyack            |
| St Lawrence | J E Meeker       | Ogdensburg    | R J Reynolds   | Potsdam          | L T McNulty      | Potsdam          |
| Saratoga    | R B Post         | Ballston Spa  | M J Magovern   | Saratoga Sp      | W J Maby         | Mechanicville    |
| Schenectady | J R Schermerhorn | Sch'nt'dy     | J H Naumoff    | Schenectady      | C E Wiedenman    | Schenectady      |
| Schoharie   | C L Olendorf     | Cobleskill    | H L Odell      | Sharon Springs   | LeR Becker       | Cobleskill       |
| Schuyler    | C W Schmidt      | Burdett       | O A Allen      | Watkins Glen     | O A Allen        | Watkins Glen     |
| Seneca      | C B Bacon        | Waterloo      | D B Walker     | Waterloo         | D B Walker       | Waterloo         |
| Steuben     | D R Haggerty     | Arkport       | R J Shafer     | Corning          | R J Shafer       | Corning          |
| Suffolk     | W W Gardner      | Patchogue     | E P Kolb       | Holtsville       | G A Silliman     | Sayville         |
| Sullivan    | H Golembe        | Liberty       | D S Payne      | Liberty          | D S Payne        | Liberty          |
| Tioga       | C S Johnson      | Spencer       | I N Peterson   | Owego            | I N Peterson     | Owego            |
| Tompkins    | H J Wilson       | Ithaca        | W Wilson       | Ithaca           | W Wilson         | Ithaca           |
| Ulster      | H L Rakov        | Kingston      | C L Gannon     | Kingston         | C B Van Gaasbeek | Kingston         |
| Warren      | D M Sawyer       | Glens Falls   | J S Parker     | Glens Falls      | J S Parker       | Glens Falls      |
| Washington  | W B Nuzzo        | Hartford      | D M Vickers    | Cambridge        | C A Prescott     | Hudson Falls     |
| Wayne       | E S Platt        | Red Creek     | J L Davis      | Newark           | J L Davis        | Newark           |
| Westchester | R T B Todd       | Tarrytown     | R B Archibald  | Bedford Hills    | J G Morrissey    | Yonkers          |
| Wyoming     | G G Davis        | Arcade        | O T Ghent      | Warsaw           | O T Ghent        | Warsaw           |
| Yates       | J P MacDowell    | Dundee        | G C Hatch      | Penn Yan         | G C Hatch        | Penn Yan         |

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

APRIL 15 1939

NUMBER 8

---

## *Editorial*

---

### Stock-Taking Time

On April 24, 25, 26, and 27 the Medical Society of the State of New York will hold its annual meeting at Syracuse. The 1939 session assumes added importance in the light of current events.

The Annual Meeting of the State Society is on the not-to-be-missed list of thousands of practitioners who look to it to keep them abreast of the medical times. The program this year will more than fulfill their expectations. Emphasis on early diagnosis and preventive therapy gives genuine practical value to the lectures scheduled. The exhibits and demonstrations that will supplement the formal program have the same end in view. From the purely scientific point of view the meeting should be highly stimulating and instructive.

The unprecedented medico-political events of the past twelve-month give serious overtones to the executive councils. The monopoly action against the District of Columbia Medical Society and the A.M.A., the National Health Program and the ambiguous Wagner National Health Bill now before Congress, hold serious implications for medical practice as now constituted and the continued development of organized medicine. Every physician who is aware of the social and economic forces that are exerting almost unbearable pressure on the medical profession will desire to participate in the formulation of a medical policy for the coming year.

An essential prerequisite for intelligent understanding of administrative activities at the annual meeting is familiarity with the annual reports. These were published in the March 15 issue of the JOURNAL and should be read by all who plan to attend the Syracuse meeting.

## Inescapable Facts

The defeat of the chiropractic bill in the Assembly leaves the profession freer to combat the Milmoë osteopathy bill. The latter has passed the lower house by one vote. It is now with the Senate Education Committee, where every effort should be made to defeat it.

Physicians can help to administer a decisive defeat to this undesirable measure by explaining its full implications to their representatives in the State Senate. To many legislators, the difference between medicine and osteopathy is vague and unessential. They do not understand the dangers involved in granting osteopaths prerogatives for which they are not trained.

The designation of a surgical procedure as "minor" does not mean that it is devoid of risk or may be performed safely by untrained operators. Every surgical procedure, no matter how seemingly slight, requires complete asepsis and expert operative technique. When these are lacking the smallest operation—even the opening of a pimple—is dangerous and may cause serious complications.

Osteopaths, from the very nature of their theory, are not taught surgery. Neither are they trained to administer anesthetics—a procedure that is always dangerous unless the anesthetist thoroughly understands the potentialities of the products employed and the normal and abnormal physiologic reactions thereto.

The use of narcotic drugs is one of the gravest responsibilities entrusted to physicians. Dosage must be carefully regulated, both to obtain maximum results with minimal physiologic reactions and to prevent the development of addiction. To place these potent and dangerous drugs at the disposal of a profession without training in materia medica is to open the door to increased narcoticism from faulty prescribing.

Similar dangers exist with respect to biologic products. For the most part they are valuable because of their specificity. Accurate diagnosis is essential if they are to be employed to advantage. This is well illustrated by the serum treatment for pneumonia, which depends on recognition not merely of a pneumonic condition but of the particular type of pneumonia present. The indiscriminate use of biologic products is not only without benefit but risky to boot. Osteopaths are not qualified to employ these preparations safely or beneficially.

In weighing the osteopathy bill, the legislature should ask itself why osteopaths receive a different degree from that conferred on regular physicians. The answer to this question—essential differences in theory and training—furnishes an unanswerable argument against the Milmoë bill.

## Absorbic Acid in Whooping Cough

The prevention of pertussis is a major problem confronting all pediatricians. Isolation has not afforded the solution, since, during the most infective period—the catarrhal stage, accurate diagnosis is almost impossible because of the nonspecific character of the cough.<sup>1</sup> Vaccination, since its introduction by Meyer, Kristensen, and Sorenson,<sup>2</sup> has been followed by numerous conflicting reports as to its efficacy. The encouraging work of Sauer<sup>3</sup> could not be substantiated by Siegel and Golberger,<sup>4</sup> among others.

Consequently, until such time as preventive measures can be advocated with the certainty that attends those employed against typhoid fever, diphtheria, and smallpox, the shortening of the paroxysmal stage of whooping cough and the relief of the symptoms remains the foremost concern of the practicing physician. Clinical studies indicate that this can be achieved. The experiences of Otani<sup>5</sup> and of Omerad, Unkauf, and White<sup>6</sup> with the beneficial effects of large doses of absorbic acid have recently been confirmed by Vermillion and Stafford.<sup>7</sup> Using as much as 225 mg. of absorbic acid in some instances, and as little as 75 mg. in others, they were able to materially decrease the duration of the paroxysmal stage in 24 of 26 cases of whooping cough. The average duration of this stage of the disease in the patients so treated was one week. In addition, the daily number of coughing spells typical of pertussis was reduced in some instances to but one or two a day.

From this it appears that despite the patient's age or the duration of the whooping cough, absorbic acid may prove effective in both shortening and checking the symptoms of the disease. Dosage, of course, must be individualized from the standpoint of the severity of the pertussis and the age of the one afflicted.

1. Lawson, G. M. *Am. J. Dis. Child.* 46: 1454 (1933).

2. Meyer, A. H., Kristensen, M., and Sorenson, E. *Acta Paediatr.* 4: 21 (1924).

3. Sauer, L. W. *J. A. M. A.* 100: 239 (1933).

4. Siegel, M., and Golberger, E. W. *J. A. M. A.* 109: 1068 (1937).

5. Otani, T. *Klin. Wochenschr.* 15: 1884 (1936).

6. Omerad, M. J., Unkauf, B. M., and White, P. D. *Canad. M. A. J.* 37: 308 (1937).

7. Vermillion, E. L., Stafford, G. R. *J. Kansas M. Soc.* 11: 469 (1938).

## Cortical Extract in Marasmus

It has long been recognized that marasmus is associated with severe infectious diseases, and results from an improper utilization of the food intake, eventuating in a negative nitrogen and mineral salt balance. The essential indication in the treatment of this condition is the removal of the primary cause whether it be infection, degenerative disease, or improper nutrition. Often, however, this alone is not sufficient to bring about a cure, and, according to

Hislop,<sup>1</sup> the failure can be attributed to an adrenal insufficiency. Postmortem findings, in cases of intestinal intoxication wherein diarrhea and vomiting had been prominent, showed hyperemic and occasionally hemorrhagic changes in the adrenal glands.

Experimentally, it has been demonstrated that adrenalectomized rats do not gain as much weight per unit of food ingested as do normal rats. Furthermore, diets deficient in Vitamin A and B produce definite pathologic changes in the adrenals. Hislop concluded from all this that correction of the hypoadrenalism was necessary before the ordinary therapeutic measures could be rendered effective. Fourteen cases of marasmus were treated by this observer with intramuscular injections of cortical extract, after suitable dietary and hygienic measures alone had failed to produce the desired results. One minim of the extract was given for each two pounds of body weight. In 11 of the cases, a satisfactory response was apparent in the greatly increased gain in weight during the period when the cortin was administered, and the persistence of weight gain after this form of treatment had been discontinued.

From this report it would appear that the condition responsible for the marasmus also produces a hypoadrenalism which must be corrected before the usual therapeutic measures will take effect. Cortical extract supplies the deficiency and tides the infant over this period until its adrenal glands have returned to normal function.

---

<sup>1</sup> Hislop *Lancet*, 2 308 (1938)

---

### Current Comment

"The doctors themselves, through their organizations, have suggested an answer to the medical problem.

First. Let the State continue and even extend its public health work to educate and guard people in the field of preventive medicine.

Second. Arrange for that part of the population which is clearly unable to pay doctors' and dentists' fees to be taken care of by local authorities or possibly by representment, never by distant Federal authorities. Under this plan the doctor would not have to do too much charity work nor overcharge his paying patients.

Third. Leave the rest of us alone to run our own lives, choose our own physicians

and pay him a reasonable fee. Then we can continue to stand on our own feet, keep our self-respect, and maintain the splendid and helpful relationships that have existed in the past between the doctor and his patient." An excerpt from *The American Farmer* of recent date.

"The nub of the matter—of basic interest to every citizen who cares a hoot for the Bill of Rights and the principle of government by law rather than by men—is the significance of this invitation presented to the A M A—to accept from the executive branch of the Federal Govern-

ment a purchase of immunity from criminal prosecution by 'consenting' to proposals 'going beyond the elimination of illegal practices' When an executive can dictate a course of action *beyond* the requirements of law, as a *quid pro quo* for avoiding criminal prosecution, what becomes of our cherished 'due process of law? A 'consent' decree under such circumstances differs from the decrees simple of Hitler or Mussolini only in one respect: it is a form of blackmail from which one may escape, simply by refusing to submit—and accepting the consequences" 'S Q Lapius' in the *Westchester Medical Bulletin* for March

" But against any allegation of a vested interest of organized medicine in present methods the evidence that politicians have vested interest in 'socialized medicine' should be weighed. And against the case for those who want medical care being able to obtain it easily and cheaply must be weighed the fact that state medicine tends toward excessive 'doctoring' and dependence. And the experience with politically controlled group plans is that the pressure for compulsion becomes stronger and stronger

Possibly the most vital consideration for the individual is the question of freedom

To us it seems that the values of freedom, either in the usual patient physician relationship or in the genuinely voluntary group medicine plan, are so precious that they should not be surrendered lightly. To us it seems also that the present enthusiasm for federalized medicine is moving with excessive speed under political pressures. A plan which has not even been approved on a state basis has been pushed toward nation wide application. The plan dangers from it are excessive financial burdens, regimentation, obsessive medication and political abuses.' Opinions to be found in *The Christian Science Monitor*

"I think that they (the doctors) have had some serious lessons of late, with threats of state medicine, owing to public dissatisfaction with results, if they fail to meet the economic requirements of modern practice, and their collective affairs have got into better hands

'I believe that it would not be just to them to put control of the prepayment for their services practically out of their hands and into hands that have a record that gives them justified misgivings

'The weakness of the whole medical system, so far as I have been able to observe, has been in heading things up too much in centers of control and leaving out the man in the front line trenches who has the actual first contacts with the enemy (I mean the practicing doctor) Of late, a great deal of progress in some states has been made by getting out and starting at that end, backing up the practicing doctor, and helping him to take his proper place in the whole health system. When treated that way he responds and is equal to the occasion "

The foregoing are 'Opinions Seasoned by Practical Experience'—those of Mr Richards M Bradley, lay manager in connection with the Brattleboro, Vermont, plan for the delivery of medical care under a voluntary insurance system

'Perhaps the most American of our many Americanisms is the tendency of the American people to ride hobbies and to rush off frantically in the direction of the current fad. As we look back upon them such crazes although slightly ludicrous, were relatively harmless. A little extra money was put into circulation, thousands of people got a new if temporary thrill, and, although the bursting of bubbles left manufacturers and dealers with unsaleable stock on their hands, no great amount of damage was done

'But today the American public is in danger of being swept up into another

fad which has serious implications and from which we could not recover as painlessly. Books, magazines, newspapers, radio, and the movies are combining in a campaign to discredit the medical profession and to blame the doctor for the financial burden of illness, even though the doctor's bill is seldom more than one-third of the total cost which he shares with the hospital, the laboratory, the nurse, and the druggist.

"Although we are all ready to admit that changing social conditions must be recognized as indicating the need for solving this ancient problem, we must be very careful to make certain that the remedy adopted will not prove worse than the condition we are trying to correct.

"So before we rush blindly into a scheme which has universally been proved expensive and inefficient, before we upset our entire system of medical practice, before we change our doctors into job holders, let us ask ourselves seriously if the admitted problem cannot be solved in an orderly fashion through our existing machinery?" The *Nassau Medical News* of March asks "Is State Medicine a Fad?" and we have quoted in part from its discussion of the situation.

. . .

"Since the Bill of Rights was adopted as the first amendment to the Constitution, these people (propagandists of one sort or another) have ranted practically without restriction, on paper, on soapboxes, in hired halls, even in churches—and generations of Americans have listened to them.

If any one of those generations had lost its head and gone whooping down the trail pointed out to it by any one of those ranters, our present generation would most likely be living thinly off the husk of a once great country—if there was a present generation of Americans.

No such thing happened. What did happen in every case was that the American people gave the current spellbinders a fair hearing, talked over and thought

over what they had to offer, perhaps committed one or two of the barrel of mistakes the spellbinders wanted committed, and then decided against the spellbinders and snapped back to horse sense.

We've been kidded by experts, down the years—by Greenbackers, Know Nothings, Femians, Populists, Free Silverites, Ku Kluxers, Inflationists, Technocrats. But none of these has kidded the shirts off us.

Are we in any more danger of being led into lunacy now than we ever were? It seems most unlikely. "We sincerely hope that the editors of *Collier's* are correct in their final statement, especially in regard to the "spellbinding" that the "socializers" are attempting in regard to the delivery of medical care.

. . .

"We just don't know our own strength. The doctor can be a community leader anywhere, for his very title is a pass key that opens almost every door. Thus he has a unique opportunity which, through modesty or indifference, he too seldom accepts. Conferences of pedagogues and parents have, for the most part, been hearing only one side of the medical care story. The doctors can give them the other side. Why don't they?" The March issue of the *Essex County Medical Society Bulletin*.

. . .

"The American Medical Association is made up of men, and as such, they may err in wisdom or judgment as do other men. The American Medical Association, however, is simply an incident in this case. If the methods practiced against them are to become the settled practice of Federal criminal law, the same methods can be used and, no doubt, will be used against any other American citizen who may be so unfortunate as to be the defendant in a criminal proceeding. A vitally important inference, brought to our attention by *America's Future*.

# MATERNAL MORTALITY

Report for 1937 in Buffalo, New York

LOUIS A. SIEGEL, M D , Buffalo

IN THE past ten years, maternal mortality studies have occupied a prominent place in American medical literature. Comparison of our statistics with those of other countries has led to severe criticism on the part of both medical and lay authorities to the point where the latter group has published articles in popular home magazines denouncing the former for their inactivity with regard to this state of affairs. The awakening came in 1933 when the New York Academy of Medicine published the results of its investigation of maternal mortality in New York City. Their conclusions were startling and led to country-wide discussion.

As a result of this report, the national obstetric societies and the medical schools of the country embarked on an educational program to improve conditions within the profession. In some states close cooperation between the obstetric societies and the State Hospital Association members led to more careful regulation of the obstetric services. Buffalo became very conscious of its record, and in 1935 the Medical Society of the County of Erie authorized a committee to study maternal mortality. The original committee was composed of a steering committee (nonobstetric) and an obstetric study group. The latter group studied intensively, with the aid of a professional investigator (physician), all maternal deaths occurring in Erie County, beginning in January, 1935, and published its report in the *New York State Journal of Medicine*, September 1, 1937.

This original committee was then dismissed, and at its suggestion a permanent Obstetric Council was set up to continue this work. This council is composed of a representative from each hospital appointed by the superintendent of the

hospital.\* This brought into action a group of eleven men and women especially interested in obstetrics, each one ready to protect the record of his hospital. This procedure was based upon the fact that practically all deaths occurred in hospitals and that, therefore, the problem was essentially a hospital problem. Form CB 122 was continued as its chart and meetings were again held throughout the year. The following report was made to the Society at the end of its first year.

With the cooperation of the health department of the city we were able to investigate thoroughly all maternal deaths. In the course of the investigation we found discrepancies between hospital and health department records with regard to maternal deaths. In some instances the hospital was charged with deaths which were not maternal. This fact was determined by the council. In other instances the hospitals admitted in their yearly report certain maternal deaths which the health department had classified as non-maternal. These conditions led to confusion with regard to the actual number of maternal deaths in the city. The secretary of the council discussed with the head of the Vital Statistics Department the confusion that exists, and he admitted the difficulties in classification of these deaths. The council has suggested to the health board the appointment of a physician to consult with the department head, who is not a physician, in order to correct the existing evil.

\* The members of the Obstetric Council are:

|                         |                        |
|-------------------------|------------------------|
| Edward Forrester, M D   | Louis N. LaMantia, M D |
| Chairman                | Bernard A. Mohan, M D  |
| F. C. Goldsborough, M D | Milton G. Potter, M D  |
| E. E. Haley, M D        | Louis A. Siegel, M D   |
| Harriet Hooper, M D     | Secretary              |
| Curtis C. Johnson, M D  | Abram L. Weil, M D     |
|                         | Edward G. Winkler, M D |



TABLE 1—MATERNAL MORTALITY RATE FOR CITY OF BUFFALO

|                         |     |
|-------------------------|-----|
| 1937                    |     |
| 44 in 9,917 Deliveries  | 004 |
| 1936                    |     |
| 69 in 9,753 Deliveries  | 007 |
| 1935                    |     |
| 63 in 10,075 Deliveries | 006 |

TABLE 2—CAUSE OF MATERNAL DEATH—1937

|                                  | NO OF<br>CASES | PERCENTAGE |
|----------------------------------|----------------|------------|
| Infection                        | 13             | 29.5       |
| Hemorrhage                       | 9              | 20.4       |
| Abortions                        | 9              | 20.4       |
| Accidents of Pregnancy and Labor | 6              | 13.6       |
| Ectopic Pregnancies              | 3              | 6.8        |
| Toxemias                         | 2              | 4.5        |
| Pulmonary Emboli                 | 2              | 4.5        |
| Total*                           | 44             | 99.7       |

\* Thrombocytopenic purpura 1 Cases disal-  
 Convulsions 8 wks after delivery 1 lowed by  
 Infection 6 wks after delivery 1 Committee

TABLE 3a—CAUSE OF DEATH AND TYPES OF DELIVERY—1937

|   |                                  |    |
|---|----------------------------------|----|
| 1 | Infection                        | 13 |
|   | Sections                         | 9  |
|   | Spontaneous                      | 3  |
|   | Forceps                          | 1  |
| 2 | Hemorrhage                       | 9  |
|   | Spontaneous                      | 4  |
|   | Version and Extraction           | 3  |
|   | Breech                           | 1  |
|   | Section                          | 1  |
| 3 | Abortions                        | 9  |
| 4 | Accidents of Pregnancy and Labor | 6  |
| 5 | Ectopic Pregnancy                | 3  |
| 6 | Toxemias                         | 2  |
| 7 | Pulmonary Embolus                | 2  |
|   | Total                            | 44 |

The council feels that there is and always has been some question regarding the high maternal mortality rate in Buffalo. This can also be said of other cities where maternal deaths and hospital reports are not investigated. In spite of these irregularities, the council wishes to report a marked improvement in the maternal mortality rate of Buffalo.

In the calendar year of 1937, the maternal death rate was 0.004, as compared to 0.006 in 1935, and 0.007 in 1936, (Table 1), a distinct improvement. These deaths include those from abortion and ectopic pregnancies, both of which should be excluded from obstetric figures. These number 12 out of the 44 deaths, and excluding them would bring the mortality rate down to less than one-half of the deaths of the previous year. The council earnestly appeals to the Erie County Medical Society to set in motion a state-wide movement to change the state

TABLE 3b—THREE YEAR SUMMARY—1935 1936, 1937

| CAUSES OF DEATH           |      |      |      |       |
|---------------------------|------|------|------|-------|
|                           | 1935 | 1936 | 1937 | Total |
| 1 Puerperal Sepsis        | 20   | 17   | 13   | 50    |
| 2 Hemorrhage              | 10   | 6    | 9    | 25    |
| 3 Toxemias of Pregnancy   | 2    | 7    | 2    | 11    |
| 4 Surgical Shock          | 3    | 10   | 0    | 13    |
| 5 Pulmonary Embolus       | 2    | 5    | 2    | 9     |
| 6 Accidents of Pregnancy  | 4    | 5    | 6    | 15    |
| 7 Abortions               | 16   | 6    | 9    | 31    |
| 8 Extrauterine Pregnancy  | 7    | 5    | 3    | 15    |
| 9 Postoperative Pneumonia | 1    | 0    | 0    | 1     |
| Total                     | 65   | 61   | 44   | 170   |

classification of abortion and ectopics by excluding them from maternal mortality rates.

In the calendar year of 1937, there were 44 deaths. Forty-three of these were in hospitals. This figure represents the City of Buffalo statistics and not those of Erie County. The 1 death in the home as compared to 43 deaths in the hospitals again emphasized the need for careful supervision of obstetric departments.

In discussing the causes of death (Tables 2 and 3a, 3b), the council found that infection again rates highest as the outstanding cause, being 29.5 per cent. In analyzing this further we found that 9 cases, or almost 70 per cent, occurred in the section group. The council felt that in spite of the reduction in number of cesarean sections in Buffalo in 1937, proportionately the number of deaths was approximately the same. It was very disturbing to find that many of these sections were elective and theoretically should not have become infected to any greater extent than any laparotomy. This emphasizes to a greater extent the seriousness of cesarean sections. It should discourage those who feel it is the easiest way out.

Hemorrhage was the second highest cause of death in 1937, accounting for 20.4 per cent, as compared to 9.8 per cent in 1936. Most of these deaths were due to postpartum hemorrhage. The deaths from toxemias have been greatly reduced and reflect the effect of prenatal care. In 1937 there were 2 in 44 deaths, as compared to 3 in 69 in 1936. Three anesthetic deaths, 2 as a result of chloroform, and 1 from ether should serve to call attention to the importance of the anesthetic

TABLE 4—MATERNAL MORTALITY RATE IN THE CITY OF BUFFALO ACCORDING TO TYPE OF DELIVERIES—1937

|                        |      |
|------------------------|------|
| Spontaneous            | 0017 |
| Forceps                | 0008 |
| Version and Extraction | 007  |
| Cesarean Section       | 046  |
| Breech                 | 003  |

## Methods of Delivery

According to statistics of 1937 (Table 4), the patient is endangered most by cesarean section, there being 46 deaths per 1,000 sections. Version Extraction is next highest, with 7 deaths per 1,000 versions. Breech Extraction has 3 deaths per 1,000 extractions, and spontaneous deliveries, 17 per 1,000 deliveries, the last being forceps with 0.8 per 1,000 forceps deliveries.

These figures (Tables 5 and 6), again tend to show that major operative deliveries carry a much higher incidence of death than normal or forceps deliveries. Seventeen deaths occurred in the major operative group. Of the 9,917 deliveries in 1937 (Table 8), there were 7,842 spontaneous and low forceps cases. This means that 11 deaths, or 0.1 per cent occurred in this group, while 17 deaths or 0.8 per cent occurred in the remainder of deliveries, an incidence eight times greater in the operative deliveries.

It is gratifying to report, however, that there has been a distinct reduction in 1937 in both major operative procedures (Table 7). Sections in 1937 number 26, as compared to 31 in 1936, resulting in lowering the mortality rate in sections from 7.5 per cent to 4.6 per cent in 1937. In version and extraction there has been a reduction from 7.2 per cent to 5.7 per cent in 1937.

Abortions and extrauterine pregnancies, which must be considered in maternal mortality figures, according to the health

TABLE 5—TYPE OF DELIVERIES—1937

|                        |    |      |
|------------------------|----|------|
| Cesarean Section       | 12 | 27.3 |
| Spontaneous            | 9  | 20.4 |
| Abortions              | 9  | 20.4 |
| Version and Extraction | 4  | 9.0  |
| Ectopics               | 3  | 6.8  |
| Forceps                | 2  | 4.5  |
| Undelivered            | 2  | 4.5  |
| Postmortem Sections    | 2  | 4.5  |
| Breech Extraction      | 1  | 2.2  |
| Total                  | 44 | 99.6 |

TABLE 6—TYPE OF DELIVERY AND CAUSE OF MATERNAL DEATHS—1937

|                           |    |
|---------------------------|----|
| 1. Cesarean Section       | 12 |
| Sepsis                    | 0  |
| Hemorrhage                | 1  |
| Embolus                   | 1  |
| Cardiac                   | 1  |
| 2. Spontaneous            | 0  |
| Sepsis                    | 3  |
| Hemorrhage                | 4  |
| Toxemia                   | 1  |
| Accidents of Pregnancy    | 1  |
| 3. Version and Extraction | 4  |
| Hemorrhage                | 3  |
| Accidents                 | 1  |
| 4. Forceps                | 2  |
| Sepsis                    | 1  |
| Accidents                 | 1  |
| 5. Breech Extraction      | 1  |
| Hemorrhage                | 1  |
| 6. Postmortem Sections    | 2  |
| 7. Undelivered            | 2  |
| 8. Abortions              | 9  |
| 9. Ectopics               | 3  |
| Total                     | 44 |

TABLE 7—THREE YEAR SUMMARY—1935, 1936, 1937

|                           | 1935 | 1936 | 1937 | TOTAL |
|---------------------------|------|------|------|-------|
| Deaths                    | 65   | 61   | 44   | 170   |
| Methods of Delivery       |      |      |      |       |
| 1. Normal (spontaneous)   | 7    | 11   | 9    | 27    |
| 2. Forceps                | 3    | 5    | 2    | 10    |
| 3. Version and Extraction | 5    | 10   | 4    | 19    |
| 4. Breech Extraction      | 2    | 2    | 1    | 5     |
| 5. Cesarean Section       | 21   | 18   | 12   | 51    |
| 6. Abortions              | 16   | 8    | 9    | 33    |
| 7. Extrauterine Pregnancy | 7    | 5    | 3    | 15    |
| 8. Undelivered            | 4    | 1    | 2    | 7     |
| 9. Postmortem Sections    | 0    | 1    | 2    | 3     |

department, make up the remaining 12 deaths. The council feels that these are extrinsic obstetric figures and should be classified separately. The health department admits its difficulty in classifying them, as they fall into two groups, obstetric deaths or homicides, depending on whether or not self induction is admitted. The council feels that this is very arbitrary and confusing, as we know

TABLE 8—METHODS OF DELIVERY FOR 9,917 RECORDED BIRTHS BUFFALO—1937

|                     | TOTAL | NORMAL SPON | LOW   | FORCEPS | VER | CESAR | BREECH | OTHERS | NOT STATED |
|---------------------|-------|-------------|-------|---------|-----|-------|--------|--------|------------|
| Home Deliveries     | 2,641 | 1,843       | 125   | 44      | 14  | 53    | 0      | 5      | 512        |
| Percentage          | 100.0 | 69.7        | 4.7   | 1.7     | 0.5 | 2.0   | 0.0    | 1.8    | 19.4       |
| Hospital Deliveries | 7,276 | 3,951       | 1,924 | 225     | 41  | 510   | 257    | 115    | 53         |
| Percentage          | 100.0 | 54.3        | 26.4  | 3.1     | 0.6 | 7.0   | 3.5    | 1.6    | 0.7        |
| Total               | 9,917 | 5,793       | 2,049 | 269     | 55  | 563   | 257    | 120    | 565        |
| Percentage          | 100.0 | 58.4        | 20.6  | 2.7     | 0.6 | 5.7   | 2.6    | 1.1    | 5.7        |

the difficulty encountered in obtaining the cause and method of infected abortions when patients are admitted in a serious state to our hospitals. There should be some other way of classifying abortions, excluding them from obstetric figures. Many times it depends on the temperament of the medical examiner on a particular day.

### Comment

The Obstetric Council after completing its first year's investigation feels that there are many points which require serious consideration on the part of the Society.

1 Forty-three out of 44 deaths occur in hospitals, making the problem a hospital one. Each hospital is aware of the fact that obstetrics must be conducted in a carefully supervised way. Obstetric delivery rooms are as important as operating rooms and should be conducted accordingly. The question of asepsis in the technic of the delivery room is granted. As a result of its investigation, the council has concluded that major operative procedures produce the greatest incidence of mortality. It therefore behooves each hospital to carefully guard the privileges of the delivery room. Any hospital allowing major obstetric operations to be done by those not qualified is directly responsible for the results. The reputation of the hospital should guarantee the patient as safe a hospital experience as it can give her. This means the regulation of its delivery rooms to exclude those not qualified to do major operative obstetrics. Two or three local hospitals have already adopted measures to safeguard their patients, without interfering with the good will of the attending physician. If this is made general there can be no question of a lowered mortality rate.

2 The question of properly evaluating statistics in the city has not been satisfactorily solved. The health department has been handicapped by lack of funds and help, which has interfered with the collections of statistics. Formerly,

federal aid in the form of WPA workers was of great assistance to this work. This year, a special investigator was obtained through Dr. Dean, of the State Department of Health, who has helped in the collection of information from birth records. There are very few counties in New York State which have the benefit of the supplemental information as it appears on our birth records, and without sufficient help in our local health department these cannot be utilized. We would urge the Society to appeal to the board of health for additional funds and help.

3 The confusion and difficulties in classifying records have been mentioned. After carefully reading over case reports, the council found conflicting causes of death, that is, the cause of death did not coincide with the case report. This means that causes of death as recorded by the health department would not represent the actual causes, which leads to misleading statistics. This probably is true of other cities and of course in other branches of medicine. It means that statistics of this kind cannot be used to describe conditions in a community. An investigation of this kind many years ago would probably have spared Buffalo its poor obstetric record.

The council also urges the Society to use its active influence with the hospitals in the matter of postmortems. Correct diagnoses are possible only by autopsy. In the investigation of maternal deaths for 1937, out of 47 deaths, 11 were autopsied. A final diagnosis is almost impossible in some cases without this examination. The medical examiner's office should be asked to cooperate with the Society in obtaining autopsies. In the past this cooperation has been lacking. In the discussion of case reports deductions are only possible, but a postmortem examination would be final.

From the new birth-record supplement, which records the type of delivery as well as the weight of the child (Chart 1), we were able to study those patients who had had deliveries without any mortality. Heretofore, the mortality rate was studied

CHART 1—BIRTH RECORD SUPPLEMENT

Form VS 30b 7 23-36-25 000 (17-803)

For Special Study in Buffalo. Check (x) Character of Delivery

|         |          |        |       |           |
|---------|----------|--------|-------|-----------|
| Normal  | Forceps  | Low    | Mid   | High      |
| Version | Cesarean | Breech | Other | (specify) |

Weight at Birth lbs. oz.

Write plainly with durable black ink—this is a permanent record.

V.B. In case of more than one child at a birth a separate record must be made for each and the number of each, in order of birth stated. For further instructions, see reverse side of this form.

TABLE 10—ANALYSIS OF CESAREAN SECTION DEATHS—1937

| CASE | LABOR Hours | TYPE OF OPERATION | MEMBRANES        |
|------|-------------|-------------------|------------------|
| 1    | 61          | High              | Ruptured 32 hrs. |
| 2    | 80          | Low               | Ruptured 3 hrs.  |
| 3    | 40          | High              | Unruptured       |
| 4    | 39          | Low               | Ruptured 24 hrs  |
| 5    | 31          | High              | Ruptured 23 hrs. |
| 6    | 16          | High              | Unruptured       |
| 7    | 10 1/2      | High              | Unruptured       |
| 8    | 6           | High              | Unruptured       |
| 9    | 0           | High              | Unruptured       |
| 10   | 0           | High              | Unruptured       |
| 11   | 0           | Porro             | Ruptured ?       |
| 12   | 0           | Porro             | Unruptured       |

only from the recorded death records Erie County can now show the rate based on the figures of each type of delivery. From Table 9 we can see that there were 9,917 total births in 1937, of which 2,641, or 26.6 per cent were delivered in the home, and 7,276, or 73.4 per cent were delivered in hospitals. All but 53, or 0.7 per cent of the latter group had

for a supposedly safe procedure (as compared to the accepted less than 0.5 per cent in normal deliveries) required further investigation. Our analysis of these section deaths shows that 9 out of 12 deaths were caused by infection. Elective sections should be comparable to any laparotomy, which procedure carries a very low incidence of mortality. De-

TABLE 9—MORTALITY AND METHODS OF DELIVERY—1937

|                               | TOTAL DELIVERIES | SPONTANEOUS | FORCEPS | VERSION | SECTION | BREECH |
|-------------------------------|------------------|-------------|---------|---------|---------|--------|
| 9,917                         |                  | 5,793       | 2,373   | 563     | 257     | 261    |
| Maternal Mortality            |                  | 9           | 2       | 4       | 12      | 1      |
| Maternal Mortality Percentage |                  | 17          | 0.8     | "       | 4.6     | 3      |

completed the supplement, while 512, or 19.4 per cent of the home group, failed to cooperate in this manner. This now has been corrected by the health department. All certificates must be completely filled in or else returned to the physician. Of the total deliveries, therefore, 5,65, or 5.6 per cent failed to fill in the supplement. On this basis we find that there were 9 deaths out of 5,793 spontaneous deliveries, or 0.17 per cent, in the forceps group there were 2 deaths in 2,373 deliveries, or 0.08 per cent, in the version and extraction group 4 deaths in 563 deliveries, or 0.7 per cent, in the cesarean section group, 12 deaths in 257 deliveries, or 4.6 per cent, and in the breech extraction group, 1 death in 261 deliveries, or 0.3 per cent.

One can readily see the group which is responsible for the increased maternal mortality. Cesarean section was responsible for 12 out of the 44 deaths, 27.3 per cent of the obstetric death rate for 1937. A 4.6 per cent mortality rate

layed sections, after a lengthy test of labor, naturally increase the rate unless they are supplemented by hysterectomy or extraperitoneal procedures. In the 12 section deaths (Table 10) there were 4 elective sections. The remaining 8 had been in labor from five to sixty-one hours, some with ruptured membranes. These facts, combined with the following statistics on type of operation used, should help to emphasize the need for proper judgment in the choice of operation. There were 8 high, 2 low, and 2 Porro sections in this series. It is an accepted fact that the high section is not the procedure of choice in an infected case unless it is accompanied by a hysterectomy. This has been proved by various clinics in the country. There can be no doubt that herein lies our greatest difficulty.

### Conclusions

The Obstetric Council would like to make the following conclusions:

1. There has been a definite improve-

ment in maternal mortality in the City of Buffalo in 1937

2 There has been a distinct reduction in the number of major operative procedures in obstetrics, which is probably the basic cause of improvement.

3 Prenatal care has been of distinct advantage as shown by the reduced number of deaths from toxemia of pregnancy

4 Infection still remains the greatest cause of death The council finds it difficult to express itself as to the preventability of this condition In some instances other procedures than those used were suggested by the council but no one can foretell their outcome The greatest offender in infections was cesarean section, a major operation, and if we continue to reduce the number of sections or use better judgment in the choice of procedures, there should be an even greater improvement

5 Deaths from hemorrhage are theoretically preventable The council questions this when it comes to practice However, we cannot stress too much the need for quicker and better emergency measures in obtaining blood for transfusion There should never be any question about giving blood in a depleted case A delay of a few minutes might cost the life of a patient The Society should encourage the establishment of "blood banks"

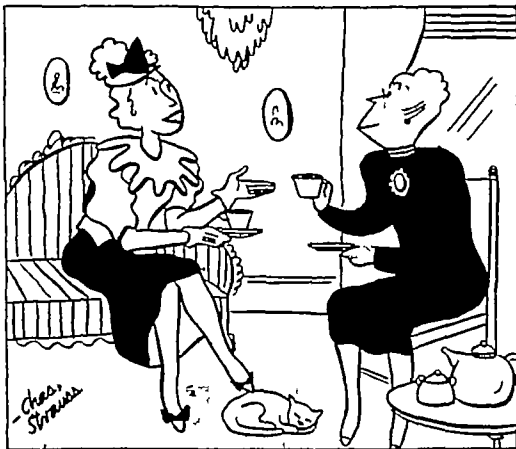
6 The presence of several physicians on the health board should lead to closer cooperation between this council and the department of health A member of the health board is now a member of the council as a representative of his hospital This coincidence has led to a better understanding

7 Maternal mortality in Buffalo is a hospital problem More careful supervision in the delivery rooms to eliminate those not qualified to do major operations and consultations before major operative procedures are done would help in the reduction of this type of delivery This in turn would naturally lower the mortality rate.

8 Yearly appointments to the Obstetric Council by the superintendent of each hospital would eliminate those men who are not interested in this work Some of these hospital representatives attended very few meetings and could not have been of helpful service either to the hospital or to the council It is suggested that the Society communicate with the hospital superintendent in this matter

. . .

The Obstetrical Council would like to take this opportunity to thank Dr Harry G LaForge for his conscientious work as investigator for this Committee



"MY DEAR, SHE'S IMPOSSIBLE TO LIVE WITH SINCE THE SUN  
SEEN'S JOURNAL PUBLISHED AN ACCOUNT OF HER OPERATION"

—Hygeia

#### LET THERE BE LIGHT!

I knew a child whose blind eyes sought the stars  
And met no light, whose finger tips were eyes  
Seeking the color of rosebuds She faced blank  
skies

To feel the wind upon her face, while bars  
Of darkness sealed her prisoned days She knew  
Voices, but saw no laughing eyes, knew pain  
And warmth, but saw no sun or silver rain,  
Nor knew when leaves were green, and skies were  
blue

And then you came and clasped her groping hand,  
With patient hope you led her faltering feet,  
Calling all science and skill to your command—

Till she saw the stars—and living was complete!  
Dear God, how can we rest, we who know light,  
While one child stumbles through a starless night?

—Grace Maddock Miller in *Hygeia*

## A SYNDROME SIMULATING TABES DORSALIS

MAURICE J. COSTELLO, M.D., New York City

THE purpose of this paper is to call attention to a syndrome which, though simulating tabes dorsalis with its Argyll Robertson pupil and absent tendon reflexes, is essentially different from it. The myotonic pupil, in what has recently been called Adie's syndrome, is also known as the pseudo- or the nonsyphilitic Argyll Robertson pupil and pupilotonia. A knowledge of this condition is of importance to the physician who assumes the responsibility of diagnosing and treating syphilis. It is frequently mistaken for the true Argyll Robertson pupil because of ignorance of its existence or because of an inability to differentiate between these distinct entities. Errors in diagnosis have led to serious errors in management and treatment.

This condition was first brought to my attention in 1923. A medical student had a pseudo Argyll Robertson pupil which was mistaken for an Argyll Robertson pupil and caused him much concern until subsequent examinations proved that he was not infected by syphilis. During the past ten years I have observed this pupillary abnormality in a number of patients who were not infected by syphilis. On the other hand, I have recently observed the nonsyphilitic Argyll Robertson pupil in a patient with syphilis.

The normal pupil varies in size in the different periods of life. In infancy and old age it is small, while in early adult life and middle age it is larger. In farsighted persons it is contracted, in those with myopia it is somewhat dilated. The light and accommodation reflexes cause constriction of the pupil, the sensory and psychic stimuli (pain and fright) cause dilatation.

Argyll Robertson<sup>1</sup> in 1869 reported 4 cases of spinal miosis in which he clearly described the characteristic features of the pupil of tabes dorsalis, now known as the Argyll Robertson pupil.

The Argyll Robertson pupil is miotic, less than 2 mm in diameter. It is constant in size and does not react to light or shade, directly or consensually, but it does contract promptly and excessively to convergence accommodation for near objects and dilates immediately and fully when the effort is discontinued. It dilates slowly and imperfectly to mydriatics and painful stimuli. It is occasionally irregular in shape and unequal in size. In 70 to 90 per cent of the cases it is bilateral and in an overwhelming majority (90 per cent) of the cases it is an absolute evidence of tabes dorsalis.

The pseudo Argyll Robertson pupil of Adie's syndrome does not react to light either directly or consensually and in this way is identical with the true Argyll Robertson pupil. It contracts very slowly during the effort of accommodation convergence for near objects and remains small for thirty seconds or longer. After the effort to converge is relaxed, it regains its original size only after dilating sluggishly. It is unilateral in 80 per cent of the cases and is usually on the left side. The pupils are unequal, the affected one is frequently somewhat dilated, larger, and is usually oval in the horizontal or vertical plane. It varies in size from time to time. When very large it cannot be used for close work. It dilates readily, rapidly, and completely to the mydriatics—such as homatropine, atropine, and cocaine—and to painful stimuli. It contracts in a similar manner to miotics such as eserine.

The condition is benign and is not rare. It is important only because it is to be differentiated from the Argyll Robertson pupil of syphilis. It holds a position analogous to that of pityriasis rosea in dermatology. The importance of that condition is its differentiation from the macular syphilitide. In this syndrome that is, pupilotonia with absent tendon

## POINTS OF DISSIMILARITY

| PSEUDO ARGYLL ROBERTSON PUPIL   | ARGYLL ROBERTSON PUPIL OF TABES DORSALIS  |
|---|---|
| 1 Women affected (80 per cent of cases)   | Both sexes affected   |
| 2 Unilateral and left sided (80 per cent of cases)  | Bilateral in the majority of cases  |
| 3 Somewhat dilated, round, occasionally oval in the horizontal or vertical plane                  | Contracted, less than 2 mm  |
| 4 Inequality striking   | Inequality if present may escape notice because of small size and bilateralism  |
| 5 Varies in size  | Stationary for months and years   |
| 6 Contracts slowly to accommodation, remains stationary for many seconds, then dilates sluggishly | Contracts promptly to accommodation and assumes original size immediately after |
| 7 Dilates rapidly and completely to mydriatics  | Dilates slowly and imperfectly to mydriatics                                    |
| 8 Manifestation of a benign condition   | In 90 per cent of cases an infallible sign of tabes dorsalis                    |
| 9 History of severe shock, emotional instability  | History of syphilis   |

reflexes, there is no evidence of syphilis and there are no signs of organic nervous disease. It is seen more frequently in women and in those of neurotic temperament who have undergone some recent disturbing emotion, such as shock or bereavement. There is a familial tendency and many of these patients exhibit dermographism.

There are only two points of similarity between these conditions: first, that the pupils do not react to light or shade directly or consensually, and second, that there is almost invariably an associated loss of the deep tendon reflexes. A milder form of this disorder is rarely seen. It is represented by similar pupillary changes but the deep tendon reflexes are present.

The points of dissimilarity are many and are shown in the above table.

For years the pseudo Argyll Robertson pupil of this nonsyphilitic syndrome must have been mistaken for the true Argyll Robertson pupil of tabes dorsalis because it was not reported until 1902 by Saenger<sup>2</sup> and by Strassburger.<sup>3</sup> Marcus<sup>4</sup> in 1906, Axenfeld<sup>5</sup> in 1919, and Gehrcke<sup>6</sup> in 1921 contributed to our knowledge of this interesting condition. The articles in recent years by Moore,<sup>7</sup> Holmes,<sup>8</sup> and Adie<sup>9</sup> adequately describe and stress the importance of this entity.

Before the complement fixation test was

discovered, at a time when the treatment of central nervous system syphilis was determined largely by physical examination, this entity was of greater practical importance than it is today. Such an abnormality, although not recognized as the pseudo Argyll Robertson pupil, might be mistaken for the Argyll Robertson pupil, but the modern physician would try to confirm his suspicions by adequate blood and spinal fluid studies before recommending treatment. It is still of importance to those who might label a person with this condition as having central nervous system syphilis without confirmatory evidence and to those who feel that a person with an Argyll Robertson pupil, whether true or false, should be treated in spite of negative tests. They should know that a syndrome, with a myotonic pupil and absent tendon reflexes, exists, which may simulate tabes dorsalis.

### Case Reports

M L, a woman, aged 30, was first observed by me in 1930, suffering from bilateral pulmonary tuberculosis with a right pneumothorax and tuberculous enteritis. She stated that she had noticed an inequality of her pupils for the past three years, since she was first told that she had tuberculosis. The left pupil is about twice the size of the right pupil. It does not react to light and contracts and dilates slowly to accommoda-

tion convergence reflex. The left pupil showed further dilatation when she was seized with the cramps of intestinal tuberculosis. When the patient was seen last in September 1937 the condition had not changed. Her deep reflexes are absent.

E. L. a woman aged 62 has had a right sided facial paralysis since childhood. About ten years ago at the time of her mother's death she noticed an inequality of her pupils which has persisted. The left pupil is twice the size of the right it is round, does not react to light, but does react sluggishly to accommodation and dilates leisurely when the effort is relaxed. There is no disturbance of vision. Her deep reflexes are normal.

H. O. a man, aged 38 accountant now under treatment for syphilis has had unequal pupils for twenty years. They appeared prior to his syphilitic infection. The left pupil measures 8 mm the right 4 mm. The left is oval in the vertical plane. It does not react to light but contracts slowly on accommodation and dilates in a similar manner. His reflexes are absent. The patient states that he does most of his close work with his right eye. At the onset of his syphilitic infection his Wassermann reaction of the blood was four plus with both the alcoholic and chol-

esterized antigens. His spinal fluid studies have always been negative for syphilis. The Wassermann reactions of the blood in recent years have been negative.

I have briefly described a syndrome simulating tabes dorsalis and the simple method of differentiating it from tabes dorsalis by observing the pupillary characteristics of size, shape, and reflex action, especially the behavior of the pseudo Argyll Robertson pupil to convergence accommodation. Knowledge of this condition should prevent errors in diagnosis and treatment and the serious consequences that may follow in their wake.

### References

1. Robertson, Argyll. Edinburgh M. J., 15 1870 (1889).
2. Saenger A. *Ibid.* 21: 837 (1902).
3. Strassburger J. *Neurol. Centralbl.* 21: 738 (1902).
4. Marcus, C. *Trans. of Ophth. Soc. of United Kingdom*, 27: 50 (1906).
5. Axenfeld T. *Klin. Monats f. Augenheilk.* 62 59 (1919).
6. Gehrcke *Ibid.* 40: 93 (1921).
7. Moore, R. Forster *Ibid.* 44: 38 (1924).
8. Holmes, Gordon *Ibid.* 51: 209 (1931).
9. Adie W. J. Pseudo Argyll Robertson Pupils with Absent Tendon Reflexes A Benign Disorder Simulating Tabes Dorsalis. *Brit. Med. J.* 928-930 (May 30) 1931.

### QUACKS POSING AS PSYCHOLOGISTS

Quack psychologists, comprising an "under world" as vicious as that of the gangster and murderer are permitted to thrive under the defective laws of many states, declares David Spence Hill Ph.D., Washington D. C. in the March issue of *Hygeia The Health Magazine*.

Such impostors not only exploit the public but also damage the reputations of legitimate psychologists, who are falsely identified with them. Dr. Hill points out:

Although authorities in psychologic fields have sufficiently exposed the fallacies and the techniques of psychologic impostors nevertheless the exploitation of the public continues in a score of cities every winter.

Such quacks flourish under numerous schemes and cults which claim to help the credulous or troubled. While not all of them pretend to be psychologists all offer some method of benefiting people by means of appeal to the mind.

Astrology palmistry spiritualism telepathy and graphology (an exaggerated emphasis on the significance of handwriting) are examples of the methods they use.

Other forms of psychologic quackery include mesmerism associated with the falsities of animal magnetism mnemonics, consisting of memory devices that enable one to perform seemingly amazing stunts phrenology which professes to reveal a person's capacity and mental traits by feeling the bumps on his head, and vocational chemistry which claims to classify applicants for positions according to their membership in the carbon, sodium and sulfur classes of mankind.

Endocrinology a legitimate field of research has as yet yielded meager knowledge about the effects of the ductless glands on personality but this knowledge is being profitably magnified by quacks.

Dr. Hill points out that the flourishing of psychologic quackery is due partly to the confusion on the part of the public with regard to the nature and methods of psychology. The wide publicity given special doctrines promulgated by well known persons interested in psychology contributes to this confusion.



# EPIDEMIC DIARRHEA OF THE NEWBORN—A NEW DISEASE?

SAMUEL FRANT, M D and HAROLD ABRAMSON, M D , New York City

(From the Bureau of Preventable Diseases, New York City Department of Health)

**I**N RECENT years, more and more attention has been given to the problem of lowering infant mortality. Wide-spread intensive campaigns have been initiated in attempts to prevent avoidable infant deaths during the first year of life. In particular, these campaigns have been directed toward the reduction of the persistently high incidence of death in the neonatal period, and have proceeded along three main lines of attack. The first phase comprises the general problem of maternal welfare, determining the causes of stillbirths and those neonatal deaths directly attributable to hazards of delivery. The second takes due cognizance of the important problem of premature births and includes a more careful investigation of the true causes of death of prematurely born infants. And lastly, the third line of approach aims at lowering that neonatal morbidity and mortality resulting from infections peculiar to the newborn period of life.

The situation in New York City during the past ten years is shown in the accompanying chart (below), which presents

both the trend of infant mortality in babies under one month of age and the trend in those from one month to one year of age. Throughout this decade, it is evident that there has been a steady decline in the death rates of the older group of infants as compared with a very slight decrease in the neonatal period. For example, the rate in infants from one month to one year has dropped from 35.5 to 17.8 deaths for each 1,000 live births, while that in infants from birth to one month has decreased only from 32.3 to 27.7 for each 1,000 live births. Although a considerable part of this outstanding lag in neonatal mortality rates can be attributed to such conditions as birth injury, congenital malformations, and marked prematurity, yet the highly significant role played by infections of the newborn as a cause of morbidity and mortality has not been sufficiently emphasized. Prominent among these infections are the diarrheal disorders.

For the past four years we have been actively engaged in the investigation of outbreaks of severe diarrhea among newborn babies in the nurseries of lying-in institutions. These outbreaks have been accompanied by an unusually high incidence of death (Tables 1 and 2). In collaboration with Rice and Best,<sup>1</sup> our early experiences with the problem were presented before the Section of Pediatrics of the American Medical Association at its annual meeting in June, 1937. At that time the opinion was advanced that we were probably dealing with a new clinical entity of undetermined etiology. The disorder showed a specific predilection for infants of the newborn period of life, and its essential clinical expression was that of severe diarrhea, intense de-

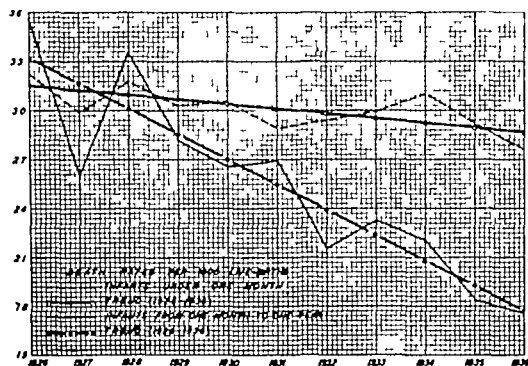


CHART Trend of death rates in infants from birth to 1 month compared with trend in infants from 1 month to 1 year, 1926-36

Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938

TABLE 1. SUMMARY OF 27 OUTBREAKS OF EPIDEMIC DIARRHEA OF THE NEWBORN IN NEW YORK CITY JULY 1934-DECEMBER, 1937

|  |       |
|--|-------|
| Total number of exposed live-born babies | 5 082 |
| Total number of babies attacked          | 750   |
| Morbidity rate                           | 14.7% |
| Total number of deaths                   | 356   |
| Mortality rate                           | 7.0%  |
| Case fatality rate                       | 47.5% |

hydration and intoxication, and rapidly ensuing death. The syndrome was descriptively designated 'Epidemic Diarrhea of the Newborn'.

Since our preliminary studies, the investigation of subsequent outbreaks has afforded us the opportunity of gaining a clearer insight into the nature of the disorder.<sup>2,4</sup> Likewise, the weight of accumulated evidence has tended further to substantiate our initial impression that

outbreaks and their clinical and epidemiologic features strongly confirms our original impressions. Likewise, additional evidence for the intimate connection between the outbreaks is obtained from bacteriologic and pathologic studies.

It should be emphasized that epidemic diarrhea of the newborn is a highly virulent communicable disease whose clinical course may be divided into several overlapping but recognizable phases. Considered in this manner in conjunction at all times with its epidemiology, the complete and unique picture of the disorder is readily revealed. The first concrete evidence of the singular character of the disease is derived from a review of its symptomatology, not of course by a mere enumeration of the individual signs, but rather by a consideration of the inter

TABLE 2. YEARLY MORBIDITY AND MORTALITY IN OUTBREAKS OF EPIDEMIC DIARRHEA OF THE NEWBORN IN NEW YORK CITY JULY 1934-DECEMBER, 1937

| YEAR | NUMBER OF EXPOSED LIVE BORN BABIES | NUMBER OF BABIES ATTACKED | PERCENTAGE MORBIDITY | NUMBER FATAL CASES | PERCENTAGE MORTALITY | CASE FATALITY RATES |
|------|------------------------------------|---------------------------|----------------------|--------------------|----------------------|---------------------|
| 1934 | 386                                | 72                        | 18.0                 | 32                 | 8.2                  | 44.0                |
| 1935 | 1,649                              | 205                       | 12.4                 | 96                 | 5.8                  | 46.8                |
| 1936 | 1,751                              | 245                       | 13.9                 | 121                | 6.3                  | 49.4                |
| 1937 | 1,296                              | 228                       | 17.6                 | 107                | 8.2                  | 46.9                |
|      | 5,082                              | 750                       | 14.7                 | 356                | 7.0                  | 47.5                |

the disease is a newly recognized syndrome whose clinical and epidemiologic characteristics serve as points of differentiation from the general group of diarrheal disorders of infancy. Moreover, by reason of its virulence and widespread occurrence, it is a disease occupying a position of importance as a cause of neonatal mortality.

During the course of our studies we were confronted with several pertinent questions. What evidence did we have that the disorder was a new and distinct clinical entity and that the outbreaks were of common etiology? Was it not possible that we were concerned with outbreaks caused by a variety of pathogenic organisms, each similarly giving the well known symptom train which characterizes severe diarrheal disorders of early infancy? Close analysis of the various

relationship of these signs. Depending upon the time of exposure, the period of incubation of the illness is about six days, varying exceptionally from one to twenty one days. Similarly, the postnatal age at which the baby is attacked is seven days, but may vary from two to fourteen days.

At times, the stage of invasion of the disorder is marked for one or two days or more by insidious symptoms such as cessation of weight gain, or loss in weight, refusal of feedings, drowsiness, some regurgitation and distention, and change in the character and frequency of stools. Early temperature rise is unusual. These prodromes may be readily overlooked or confused with mild gastrointestinal states caused, for example, by faulty feeding, prandial diarrhea, or the indirect effects of medication administered to the mothers of nursing infants. This slow onset is

particularly evident early in the course of an outbreak. Later, as the outbreak swings into full activity, the stage of invasion assumes a brief, more acute character, and merges quickly with the toxic phase.

In the stage of toxicity, unlike infections caused by parenteral disease or by primary enteritis induced by the typhoid-dysentery group of organisms, temperature reactions are still but slight, rarely exceeding 101 F. The stools increase greatly in number, are very watery and yellow, but surprisingly free of the mucus, blood, or pus which characterize cases of bacillary dysentery. Abdominal distention is prominent, vomiting is inconstant, drowsiness rapidly deepening into coma and intense dehydration, toxicity and shock complete in brief the clinical picture. Physical examination for general or localized signs of parenteral infection shows little. Aside from extremely low carbon dioxide values in the blood, laboratory investigations reveal the usual results of marked intestinal intoxication. The complications of the disorder, essentially pulmonary and otitic, are late or terminal events and are frequently heralded by an abrupt rise in temperature. Secondary invasion by pyogenic organisms may induce terminal septic phases.

In grave cases, death occurs in from one to twenty-five days, the median day of death being seven days. Thus far, despite vigorous attempts at treatment, the outcome has been fatal in 1 out of every 2 newborn babies attacked. In those babies fortunate enough to weather the infection, recovery takes place in from three to twenty-six days, the median day of recovery from the acute stage falling at nine days.

In our search for the etiology of the disorder, bacteriologic examinations of nasopharyngeal secretions and of the stools, and agglutination tests of the blood have proved of significance only by reason of consistently negative results. Nor have virus cultures revealed the causative agent. It can be seen, therefore, that these results differ totally from the usual

experiences encountered in laboratory and epidemiologic investigations of outbreaks of diarrhea caused by organisms of the dysentery, typhoid, or *Salmonella* groups. Postmortem examinations have likewise failed to identify specific pathologic lesions. Any abnormal tissue alterations have been those customarily found complicating the rapid wasting induced by severe infectious diseases of early infancy.

More positive evidence of the distinctive nature of epidemic diarrhea of the newborn is derived from a consideration of its epidemiologic features. Most outstanding is the limitation of the infection to infants of the neonatal period, that is, the first month of life. In sharp contrast to outbreaks of other enteric diseases, no instances have been brought to light indicating a spread of the disease to older children or to adults caring for the sick babies. The factors of sex and of race play no role in the incidence of the disorder. Nor are there any significant differences in its occurrence among artificially fed or so-called breast-fed infants. However, the problem of bottle feeding and its attendant preliminary techniques of formula preparation have by no means been ruled out as possible factors contributing to the spread of outbreaks. The seasonal variation is of interest insofar as the rates of incidence appear roughly comparable for the spring, summer, and fall seasons (Table 3). It will be noted, however, that the infection shows somewhat greater percentages of morbidity and mortality in the winter months.

As a final note, it should be added that characterizing each outbreak of epidemic diarrhea of the newborn is a rather typical mode of onset. The primary case usually occurs undetected and is followed at irregular latent intervals by several secondary cases during the course of one or two weeks or more. The epidemic then suddenly swings into full activity and is marked at this stage by a daily succession of new cases and deaths.

In recapitulation, then, what are the points of differentiation that stamp epi-

TABLE 2. SEASONAL MORBIDITY AND MORTALITY IN OUTBREAKS OF EPIDEMIC DIARRHEA OF THE NEWBORN IN NEW YORK CITY JULY 1934-DECEMBER 1937

|                    | SPRING | SUMMER | COMBINED<br>SEASONS | FALL  | WINTER | COMBINED<br>SEASONS |
|--------------------|--------|--------|---------------------|-------|--------|---------------------|
| Babies exposed     | 1,086  | 1,873  | 2,959               | 1,237 | 886    | 2,123               |
| Babies attacked    | 160    | 262    | 422                 | 128   | 200    | 328                 |
| Per cent morbidity | 14.7   | 13.9   | 14.3                | 10.3  | 22.6   | 15.5                |
| Per cent mortality | 7.1    | 6.9    | 7.0                 | 5.3   | 9.4    | 7.1                 |
| Case fatality      | 48.1   | 49.6   | 48.9                | 51.5  | 41.5   | 45.5                |

demio diarrhea of the newborn a new disease entity and that set it apart from other diarrheal disorders of infancy? Essentially, we have described a severe and highly fatal form of intestinal intoxication specifically attacking infants of the neonatal period of life. It exhibits furthermore the characteristics of a very virulent communicable disease causing outbreaks having a typical mode of inception and spread. Its rapid clinical course is marked by several merging phases, a period of incubation, a stage of invasion, a toxic stage, and a terminal stage of complications and death. Outstanding in the clinical picture are the lack of evidence of parenteral infection and the early absence of temperature reactions. The very watery and yellow stools containing no blood, pus, or mucus are characteristic, as well as the progressive intenseness of the intoxication. In addition, the failure of extensive bacteriologic and pathologic investigations to reveal the inciting organism constitutes negative but highly significant evidence of the intimate relationship between the various outbreaks, and of the uniform nature of the cases. As an added note, it should also be borne in mind that reports of outbreaks similar to those which we have been observing have appeared in the literature only within recent years.

During the course of our studies, it became evident that the failure to effect a satisfactory reduction in that part of neonatal mortality primarily due to infection was related to certain inherent deficiencies in present methods of obstetric, pediatric, and nursing care of newborn infants in hospitals. In the modern customary mass care of newborn babies

in open nurseries, a situation has developed which permits and may even promote the rapid spread of infection from baby to baby.

As our knowledge of epidemic diarrhea of the newborn grew, broad plans were formulated in New York City for its control and prevention, and for the prevention of the spread of infections in general among newborn babies in hospital nurseries. The first measure instituted was an amendment to the sanitary code of the city adding to the customarily reportable diseases and conditions all cases of 'diarrhea in the newborn up to three weeks of age occurring in a hospital giving maternity service.' This amendment placed under the jurisdiction of the Bureau of Preventable Diseases all instances of diarrhea which might possibly be outbreaks of the epidemic type, and allowed us to enforce stringent isolation and quarantine measures similar to those used in the control of any other communicable condition. No reference was made to a specific disease entity. The condition made reportable was designedly left broad to include all types of diarrheal disorders, so that the existence of the epidemic form of disease could be detected at its onset. As a result, the true extent of diarrheal disorders among newborn infants has become apparent, and early measures of control can be instituted immediately. These procedures include the closing of such maternity institutions to new admissions, and the isolation of all cases and exposed babies.

A study of all reported deaths under one year of age was next instituted. Questionnaires were sent to all hospitals and physicians reporting infant deaths, requesting the circumstances of birth,

illness, and death of the babies, and the results of postmortem examination. The information obtained is carefully checked against the filed death certificate to verify the accuracy of diagnoses previously listed as being the primary and contributory causes of death. These records are filed separately for each institution and constitute a continuous picture of that institution's experience.

In our next step, the base of attack was greatly broadened. We realized that for the control and prevention of infections in hospital nurseries, very fundamental changes in the conduct of obstetric and newborn services were essential. The uncontrolled and haphazard expansion of lying-in institutions with inadequate facilities for proper care of the mother and her newborn baby could not be permitted to continue. It was necessary to have certain minimal requirements for the conduct and maintenance of such services. The task was complicated, for only such regulations could be set up as could be readily adapted to the physical arrangements of maternity and newborn services as they exist today. Furthermore, the factor of operative economy without the impairment of efficiency required careful consideration, and the procedures had to be flexible enough to apply with equal force to institutions with small maternity services as well as to those with more extensive facilities.

In a previous publication<sup>2</sup> we advanced suggestions for the prevention and control of infection in newborn nurseries. These proposed procedures embodied the principles of surgical asepsis as applied to the aseptic nursing and medical care of newborn babies. With certain modifications these procedures were submitted to a special advisory committee composed of representatives of the obstetric and pediatric profession, the five county medical societies of New York, the municipal Department of Hospitals, and the voluntary and private hospitals of the city. As a result of these concerted efforts, an amendment to the sanitary code was submitted to the Board of Health and adopted on December 14, 1937.<sup>5</sup>

This amendment includes established nursing technics which have long been so advantageously used in contagious disease hospitals and in certain child-caring institutions. In the plan of organization the maternity service is made as self-contained as possible. Separate nurseries are provided for normal full-term and for premature babies, as well as isolation facilities for sick babies. The formula suite and its staff are divorced from any other diet kitchen in the hospital. The nursing personnel is likewise limited in duty to the maternity service. A minimum ratio is set, at all times during day and night, of one nurse to every unit of eight babies in a nursery. Additional regulations include provisions for the laundering of nursery linens, the conduct of ritual circumcision, the certification of maternity service personnel, and the limitation of visitors.

These regulations do not by any means represent the ultimate in obstetric and newborn nursery technic. However, they constitute a beginning in the proper direction toward the prevention and control of infection in hospital nurseries. For successful operation, their full significance and intent must be thoroughly understood, for any system of control requires the complete cooperation and untiring effort of the individuals responsible for the immediate care of the babies.

## Summary

This paper is a summary of the present status of outbreaks of epidemic diarrhea of the newborn in New York City. The main clinical and epidemiologic features of the disorder are discussed, as well as points of differentiation from other diarrheal disorders of early infancy. Data are presented to show that epidemic diarrhea of the newborn is a newly recognized and distinctive disease entity of the neonatal period of life. In addition, a summary is appended of the measures which have been adopted by the New York City Department of Health in the control and prevention of outbreaks of the disorder.

## Bibliography

1. Rice J. L., Best, W. H., Frant S. and Abramson, H. J.A.M.A., 109: 478-480 (Aug 14) 1937
2. Frant, S. and Abramson H.: J. Pediat., 11: 773-781 (Dec.), 1937
3. Frant, S. and Abramson, H.: Am. J. Pub Health, 28: 36-43 (Jan.), 1938.
4. Abramson, H., and Frant, S. Epidemic Diarrhea of the New Born IV. Clinical Considerations, Am. J. Dis. Child., 68: 1288-1307 (June) 1938.
5. Best W. H. J.A.M.A. 110: 1185-1188 (Apr 9) 1938.

## Discussion

Dr William J. Orr, *Buffalo*—Diarrhea of the newly born is not a new disease. However the diarrhea, epidemic in nature and peculiar to the newly born infant, which Dr Frant and his associates have described is of recent origin. Instances of such epidemics have been reported only within recent years. The similarity of these reported outbreaks is so striking that it is apparent we are encountering the same disease in our respective communities.

It is a grave disease and its prevention and control presents a very serious problem. The gravity is best realized when one witnesses the fear and panic that seizes the hospital personnel during the throes of an epidemic. This experience is equalled only by the feeling of helplessness by the medical staff in its efforts to combat the infection.

Our first outbreak occurred in 1935. Two institutions were affected. Eighteen infants developed diarrhea all of whom were partially or entirely formula fed. No infants on complete breast feedings contracted the disease. This I think, is an important etiologic consideration.

The disease, as it progressed had several striking and peculiar characteristics which suggested one of a different entity from the average type of diarrhea seen in newly born or young infants. Only the newly born were affected. The period of invasion rarely extended beyond twenty-four hours. Two or three loose stools, refusal of feedings and drowsiness were the most constant of the prodromal symptoms. In some patients the drowsiness was so profound that they did not respond to any type of stimulation. Fever was absent or slight in most instances. The change from the early toxic stage to that of profound toxemia was usually very rapid. The drowsiness became even more profound, and the diarrhea more acute.

The most alarming of all symptoms was the marked degree of dehydration that developed. Some infants would lose as much as a pound in weight during a twenty four hour period despite every attempt to replace fluid loss.

This lack of stability in the water balance and dehydration was greater than could seemingly be

explained from the fluids lost in the frequent watery stools.

Death occurred in from two to ten days in 44 per cent of the cases. Recovery was rapid in those that survived.

Our endeavors to determine the etiology of the disease were as futile and unsuccessful as those of Dr Frant.

The epidemic was effectively controlled by closing the nurseries and establishing three emergency nurseries one for the old and new cases of diarrhea another for all contact cases and the third for all new admissions. In addition to these precautions, strict aseptic technic was carried out.

As a result of our experience three of the local hospitals now employ in their nurseries a technic very similar to that outlined by the New York City Health Department for the control of infection.

Unfortunately there are no compulsory regulations affecting all hospital nurseries.

Two months ago a similar outbreak occurred in one of our hospitals where the technic and supervision are inclined to be lax. Five of 9 cases succumbed.

The value of complete breast feeding as a safeguard from infection in the newly born cannot be overemphasized. If a more determined effort were made to have all newly born infants breast fed many of these dreaded infections could be avoided.

In formula feeding contamination of the food in its preparation and the possibilities of introducing infection to the infant at the time of feeding are more than a likely means of spreading disease.

The prevailing practice of giving accessory or supplementary feedings to normal infants to avoid an initial weight loss during the first few days of life can be pernicious.

The strides made by the New York City and Chicago Health departments in preventing the spread of infection in hospital nurseries are most commendable and should aid materially in the reduction of deaths in the newly born group. It is hoped that the health boards in other communities will introduce similar regulatory measures.

Dr Walter D. Ludlum, *Brooklyn*—It is manifestly impossible, in a five-minute discussion, to discuss all the phases of a broad subject, and it is the duty of a person participating to concentrate on what he thinks he can provide of most value. Therefore, I can say that I appreciate to the utmost the activities of the Health Department and its personnel in its efforts to control these

epidemics, and proceed to a couple of specific items

I am as much interested, commonly speaking, as anyone in the ultimate cause, be it ultra-microscopic virus or bacterium, but I am neither bacteriologist nor epidemiologist, it is not directly my affair

I want to know how the organism gets into the hospital. If we don't have a first case, we cannot have an epidemic, but this is not so much my duty and, besides, I have not even to myself, formed an exact opinion as to how to close the door of entry

What I do consider our concern as practicing pediatricists is the prevention of epidemics and the limitation of later cases coming from the first case or a common source

One can do aseptic obstetrics in an ordinary kitchen with a good stove and a little equipment, but it cannot be done in marble halls with unsterile hands uncovered. I do *not* advocate kitchen obstetrics, but I do observe that, in most of what is written about these epidemics, there can be read (and this applies to the regulations) much about material things, many rooms, equipment, spacing, and things of that kind, which can be seen by an inspector at any time, whereas, the fundamental item of procedure which goes on when he is absent, receives less consideration

By what channel, then, does this infecting material gain entrance into the individual? Obviously, I think we can say, though even the obviousness has been disputed, that the babies have skins and navels. At any rate I am going to claim obviously through the mouth or adjacent nose.

What enters here? The mother's nipple is not capable of sterilization, someone says. Agreed, but here we are considering the spread of infection, for one case does not an epidemic make, and one mother can thus directly cause but one case, unless she nurses more than one baby

A miasm from the circumambient air which the baby is quietly breathing is suggested. This seems a return to the Listerian era and the carbolic spray in the operating room. Do you really believe it is the cause of this kind of infection? Time prevents any discussion

Many items we must consider as adequately covered in ordinary good hospital housekeeping and in other papers and in regulations. We refer to such things as sterilization of linen, original sterilization of implements, bottles, nipples, and, in most places nowadays, the

babies' food. Many such items can cause epidemics, but do they now? I would not deny it, but proceed to my main theme

Most positively, I believe, such epidemics, or some similar, have been what I like to call "upper respiratory diarrheas," clinically a slight, perhaps unobservable throat infection, preceding and causing an intestinal infection. This type is to be prevented by throat masks, proper and properly worn. Whether and how this is possible gives room for a round-table discussion in itself

Naturally we approve of nurses' hands being clean, but does the repeated hand-washing called for in regulations (between handling each two babies) do what it is expected to do? Does it, in fact, accomplish anything to speak of in controlling this kind of infection? It is ideal, and to be carried out when possible, that separate persons, nurses or attendants, feed the babies and give them their other care. But when our nursery nurse embodies two functions in one person, she must complete one, change the clothing, diapers, and what not on all her charges, with such washing between cases as her sense of decency demands, then give her hands a real scrub, and feed the babies

And here is where what seems another queer misunderstanding comes in. It has been recommended that nurses wear gloves while "feeding the babies," i.e. while carrying them to their mothers and such. This would be analogous to requiring the nonsterile nurse in the operating room to wear them

When I was sitting in committee, I was so annoyed by protracted discussion of matters which seemed of slight importance, that I rose and emphatically announced it as my opinion that the enforcement of one sentence would be of more value than all the other regulations, however good and necessary, put together. Namely that "The bottle nipple shall be touched by nothing between its adequate sterilization and the time it is finally taken from the baby, except the sterile gloved hand." As a necessary concession was added "or forceps"

In a word, at present we believe that the medium of transference is the nipple, even in the best regulated hospitals where real nurses and not Sairey Gamps are employed. Until an aseptic sense, very closely resembling that of a good operating staff, is maintained throughout the nursery personnel, we believe that these epidemics will continue and the service must be closed to control them

---

"What do you do in a case of amnesia, doctor?"  
 "I collect my fee in advance."—*Medical Record*

---

A physician is an angel when employed but a devil when one must pay him.—German Proverb

# SPONTANEOUS PNEUMOTHORAX IN AN ASTHMATIC PATIENT TREATED WITH IODIZED OIL

ABNER M. FUCHS, M.D., New York City

(From the Allergy Clinic, Department of Medicine New York Post-Graduate Medical School and Hospital and the Allergy Clinic of the Metropolitan Hospital)

UNTIL recently, reports of spontaneous pneumothorax complicating bronchial asthma were seldom described. This may be attributed to the fact that the vast preponderance of cases of pneumothorax (approximately 80 per cent) exists as a complication of tuberculosis.<sup>1</sup> As a consequence of the highly improved methods of diagnosis, the stigma of tuberculosis has been removed from an increasing number of cases occurring in persons suffering from bronchial asthma. In these individuals, air enters more readily than it can be expelled, and rupture at any weak point is likely to occur because of the development of excessive intrapulmonary pressure.

The case here reported is of particular interest because the pneumothorax occurred subsequent to the treatment of the asthmatic condition by intratracheal instillation of iodized oil.

The patient, B. H., a young man aged 27, suffered from bronchial asthma of one year's duration. The attacks were seasonal in character with an interval of freedom during the winter months and were associated with other manifestations of allergy such as hay fever and urticaria. Eosinophilia was present. Intracutaneous tests gave positive reactions to the extracts of timothy, plantain, house dust, chicken, duck and goose epithelia, tobacco, pork, chocolate, tomato, pepper, and orange. Repeated examinations of the sputa were negative for tubercle bacilli. Intracutaneous tuberculin test with 0.1 mg. of old tuberculin gave no reaction. X-ray examination of the lungs showed increased hilar markings radiating toward the periphery. He was advised to at-

tend the asthma clinic for allergic treatment. This he failed to do.

Iodized oil treatment for the relief of his asthma was instituted on March 24, 1937, in disregard of the indications for allergic treatment. Six instillations in doses of 10 cc. weekly were administered, first into the lower lobe bronchus on the right side, a week later into the left lower lobe, the next three treatments into both lower lobes, and on May 11, 1937, the left upper lobe was injected.

On May 17, 1937, the patient experienced a severe asthmatic attack, accompanied by violent nonproductive coughing. While walking down the stairs, he was seized suddenly with a sharp pain in his right lower chest which radiated to the right shoulder. The dyspnea persisted and attempts at deep breathing aggravated the pain. He went to bed immediately but the pain and dyspnea continued throughout the night. The next morning, May 18, 1937, he was admitted to the hospital.

Examination showed a worried, markedly dyspneic young man sitting up in bed. His lips were cyanotic. The trachea was not displaced. There was a slight fullness of the right anterior chest with decreased respiratory movements. On this side tactile fremitus was absent, vocal fremitus and breath sounds were markedly diminished, and the percussion note was hyperresonant. Numerous sonorous and sibilant rales could be heard over the left side of the chest. The heart was normal in size and position, the sounds were clear and no murmurs were heard. The radial pulsations were full, regular, and synchronous. The tempera-





FIG 1 Iodized oil present in left lung field one year after instillation

ture was 97.3 F, pulse rate 103, respiration 24, and blood pressure  $122/78$ . The abdomen was negative. Reflexes were present and active. The x-ray examination at this time showed a right partial pneumothorax. Iodized oil was evident in the lower two-thirds of the left lung field and the lower one-third of the right lung field. No iodized oil was seen in the pleural cavity. Because the pain and dyspnea persisted, it was deemed advisable to expand the lung as rapidly as possible by subaqueous drainage. This procedure was continued until the pressure in the pleural cavity became negative. The x-ray examination now showed almost complete re-expansion of the right lung.

Two weeks later, June 1, 1937, following another severe asthmatic attack accompanied by strenuous coughing, the right lung again collapsed. Drainage at this time was deemed inadvisable. Progressive re-expansion brought about full recovery. The patient was discharged on July 25, 1937, after a ten weeks' stay at the hospital.

Incidental to the frequent physical examinations of the patient, x-rays were taken at monthly intervals to determine the extent of the retention of the iodized oil. These x-rays disclosed a very slow rate of disappearance of this oil, for after an interval of a year, an appreciable quantity of iodized oil was noted in the left lung field (Fig. 1).

## Discussion

Pneumothorax rarely complicates bronchial asthma since the lungs are able to distend sufficiently to allow passage of the minimum air requisites. During an acute attack, the lungs cannot expel all the air because the diameter of the small bronchi is diminished as a result of the active congestion of the mucous membrane and an excess of mucus secretion, and possibly spasm of the muscular coat. When the intrapulmonary pressure becomes too great because of dyspnea and coughing, any weak point in the pulmonary system may rupture. The point of rupture may be (1) an emphysematous bleb on the visceral pleura, (2) adhesions between the pleurae, (3) abnormally thin pleura, (4) or an obliterative bronchiectasis in which the terminal bronchiole continues to dilate to the point of rupture.

Unusual interest is attached to this case because the pneumothorax occurred following the introduction of iodized oil as a therapeutic measure. No causal relationship between the development of the pneumothorax and the presence of iodized oil is here asserted. This condition at times occurs in apparently healthy young individuals,<sup>2</sup> as well as in untreated asthmatics.<sup>3</sup> However, it must be admitted that the introduction of a viscid solution such as iodized oil, which is retained over an extended period, may result in an increased obstruction of the bronchi and bronchioles. This further reduces the vital capacity of the lungs and aggravates the increased intrapulmonary pressure, enhancing the likelihood of pulmonary damage.

A disregard of the deleterious effects incident to the use of iodized oil as a thera-

peutic measure in asthma has resulted in many serious complications.<sup>4</sup> A recent survey of authoritative opinions revealed not only a lack of enthusiasm for this form of therapy, but direct opposition.<sup>5</sup> Sequelae such as iododerma,<sup>6</sup> atelectasis,<sup>7</sup> traumatic bronchiectasis,<sup>8</sup> pneumonia,<sup>9</sup> and tuberculosis<sup>10</sup> have been reported. Fatal terminations have also occurred.<sup>11</sup> Its use may be justified in the nonallergic cases of asthma, especially those associated with infection, such as bronchitis or bronchiectasis. The case here reported is definitely allergic in character. There is a seasonal occurrence of asthma, an interval of freedom from attacks during the winter months, an association of other manifestations of allergy, such as hay fever and urticaria, positive skin reactions, and the presence of eosinophilia. Clinically and roentgenologically there is no evidence of any pulmonary infection. In this type of individual, the well proved allergic management is indicated.

The most probable explanation for the development of the pneumothorax is a rupture of an emphysematous bleb resulting from the strain placed upon the overdistended lung by the severe coughing and expiratory difficulty. It is quite possible that the presence of the iodized oil tended further to decrease the vital capacity in an already overdistended lung. Had the patient heeded instructions and received allergic treatment, the pneumothorax might not have occurred.

### Summary

1 Spontaneous pneumothorax occurring in an asthmatic individual subsequent to treatment with iodized oil is reported.

2. The patient, aged 27, suffered from bronchial asthma of one year's duration. The attacks were seasonal in character and were associated with other allergic manifestations, such as hay fever and

urticaria. Intracutaneous tests gave positive reactions to the extracts of timothy, plantain, house dust, chicken, duck and goose epithelia, tobacco, pork, chocolate, tomato, pepper, and orange. Eosinophilia was present. X ray of the lungs showed increased hilar markings.

3 Iodized oil treatment was instituted in disregard of the indications for allergic treatment. Six instillations (10 cc. weekly) were injected into both lower lobes and the left upper lobe.

4 During a severe asthmatic attack a right partial pneumothorax occurred. Drainage became necessary. Two weeks later another severe asthmatic attack was followed by a second collapse of the right lung. After this progressive re-expansion brought about full recovery.

5 The pneumothorax was probably caused by the rupture of an emphysematous bleb incident upon the severe coughing and expiratory difficulty, a condition which occurs occasionally in cases of bronchial asthma.

6 The presence of the iodized oil in the lung tissues most likely further decreased the vital capacity of the already overdistended lung. Residual oil is still evident after an interval of one year (Fig 1).

7 Treatment by the accepted allergic management might have prevented the occurrence of the pneumothorax.

29 East 9th Street

### References

1. Kahn, I. S. *Texas State J. Med.*, 25: 690 (1930).
2. Bassel, P. M. *Texas State J. Med.*, 32: 696 (1937).
3. Spivacke, C. A. *M. J. & Rec.*, 122: 10 (1925).
4. Archibald, E. W., and Brown, A. L.: *J.A.M.A.*, 88: 310 (1927).
5. Crip, L. H., and Hampsey, J. W.: *J. Allergy*, 9: 23 (1937).
6. Goldstein, D. W. *J.A.M.A.*, 106: 1659 (1936).
7. Pinchin, A. J. B., and Morlock, H. V.: *Brit. M. J.*, 1: 930 (1931).
8. Flehn, O. J.: Discussion of Paper by Anderson (Ref. 9).
9. Anderson, W.: *New York State J. Med.*, 36: 1151 (1936).
10. Schneider, L., and Segal, L.: *Am. Rev. Tuberc.*, 35: 590 (1937).
11. Amberson, J. B. Jr., Higgins, H. M., and McLeod: *J. Roentgenol.*, 30: 737 (1933).

To make its peace with the Department of Justice the American Medical Association might join the C.I.O.—*Ill. Med. Jour.*

Scientists say women are eating more they certainly have the figures to prove it.

—*Health E.*

# SYNDROME OF RETROPERITONEAL PELVIC ABSCESS

ALFRED P INGEGNO, M D , and SAMUEL SPITZ, M D , Brooklyn, New York

(From the Department of Internal Medicine, Long Island College of Medicine and Long Island College Hospital, Brooklyn)

**T**HE cause of prolonged fever is often difficult to determine. A circumscribed suppurative process, if deeply placed and without clear-cut localizing signs, may tax diagnostic ingenuity to the utmost. Three cases of this nature, seen at the Long Island College Hospital in a relatively short period, were found to have retroperitoneal pelvic abscess. While their mode of origin differed, their nature and localization were such as to present, in review, a fairly characteristic symptom-complex. The syndrome seems worthy of recording to the end that diagnosis, and therefore adequate treatment, be not too long delayed. The case records are summarized in Table 1.

## Report of Cases

*Case 1*—Mrs W W , white, aged 43, was admitted July 7, 1936, complaining of fever, chills, and sweats. She had had a heavy vaginal discharge twenty years before, relieved by bilateral salpingectomy and left oophorectomy. In March, 1936, she began to have yellowish vaginal discharge to which she paid little attention. One week after a normal menstrual period in May, 1936, bleeding recurred. This continued for ten days, culminating in a severe hemorrhage. Curettement at another hospital proved the presence of carcinoma of the cervix, for which she received radium treatment (75 mg  $\times$  44 hrs). Five days later she developed fever, chills, and sweats which continued to the time of admission. Antimalarial treatment had been given without improvement. She complained of dull pain in both groins, particularly the left, vaginal discharge, constipation, and loss of weight. The patient was acutely ill, thin, and pale, temperature, 102 F, pulse rate, 112, respiration, 22, and blood pressure, 82/50. The abdomen showed

a well-healed suprapubic scar. Both kidney poles were palpable and somewhat tender. There was tenderness to deep pressure in both lower quadrants, with rebound tenderness, particularly on the left. Pelvic examination revealed a multiparous introitus with old laceration and purulent vaginal discharge. The cervix was fixed and tender, the uterus anteverted, anteverted, fixed, and very tender. There was marked thickening of both parametria. The hemoglobin was 65 per cent, the white cell count, 16,300 with 81 per cent polymorphonuclears. The sedimentation time (18 mm) was ten minutes. Urinalysis, blood chemistry, icteric index, blood Wassermann and Kahn, and blood culture were negative.

Her condition was interpreted as post-radiation parametritis and endometritis with pelvic peritonitis, conservative treatment was instituted. However, her septic symptoms persisted and she complained of severe pain in the left groin and lower back radiating to the knee and occasionally to the toes. There were severe headaches, anorexia, and occasional nausea and vomiting. On August 10, 1936, the parametrial involvement was much diminished but still present in the base of the left broad ligament. A month of persisting symptoms followed, unrelieved by repeated blood transfusions and other supportive measures. On September 24, it was noted that the patient held the left thigh flexed and adducted. Any attempt at extension was resisted, movement causing acute pain referred to pelvis and genitalia. There was edema of the left foot and leg. An ill-defined, tender mass could be felt above the left Poupert's ligament, and the overlying muscles were resistant. A mass could now be easily felt along the left pelvic wall. Radiograph of the pelvis showed

TABLE 1 RETROPERITONEAL PELVIC ABSCESS—SUMMARY OF THREE CASES

| CASE                        | 1 MRS. W W 43                                | 2 MRS. W W 61  | 3. MRS. F R. 45  |
|-----------------------------|--|--|--|
| General symptoms of sepsis  | Present                                      | Present  | Present  |
| Localizing signs:           |  |  |  |
| Pain                        | Left groin & back radiating down leg         | Right groin & thigh  | Right hip & knee   |
| Spasm at hip                | Present                                      | Present  | Present  |
| Pelvic mass                 | Present                                      | Present  | Present  |
| Other                       | Edema left leg & foot                        | Increased circumference of right thigh                             | ?  |
| X-ray                       | Relative osteoporosis of left side of pelvis | Displacement of rectum & sigmoid to left                           | Hip negative   |
| White count                 | 16,300                                       | 16,800-19,400  | 18,650-17,400  |
| Sedimentation rate (18 mm.) | 10 minutes                                   | ?  | 11 minutes   |
| Hemoglobin                  | 65-85%                                       | 64-64%   | 80%  |
| Blood culture               | H. streptococcus (terminal)                  | Sterile  | Sterile  |
| Operation                   | Incision & drainage                          | Incision & drainage  | None   |
| Location of abscess         | Left side of pelvis & lower lumbar region    | Right side of pelvis & adductor canal                              | Right side of pelvis, adductor canal & lower lumbar region |
| Organism                    | H. streptococcus                             | Staph aureus   | Staph. aureus  |
| Focus of origin             | Carcinomatous ulcer of cervix                | Acute prostatitis  | Injury from fall (?)                                       |
| Duration of illness         | 3 months                                     | 4 months   | 2 months   |
| Cause of death              | Septicemia                                   | Perforation & hemorrhage of gastric ulcers generalized peritonitis | Uremia, myocardial failure, bronchopneumonia               |

relative osteoporosis on the left but the sacroiliac joints were normal. An incision was made above the left Poupart's ligament and two quarts of greenish pus were evacuated from a huge pelvic retroperitoneal abscess; culture showed hemolytic streptococcus. The next day patient had a severe chill, temperature rose to 100.4 F., and blood culture revealed streptococcus hemolyticus. She lapsed into coma and died on September 28, four days after incision of the abscess.

Autopsy both tubes and the left ovary were absent (old operation) and there were many fibrous adhesions about the remaining pelvic organs. The pelvic peritoneum was free of exudate. A retroperitoneal abscess was present on the internal aspect of the left ilium, extending 8 cm. along the left side of the vertebral column and into the pelvis to the level of the midportion of the body of the uterus. The wall of the abscess was composed of fairly firm scar tissue which, microscopically, showed an inflammatory exudate and Gram positive cocci. The abscess had no connections with any of the abdominal organs. The left broad ligament was thickened by fibrous tissue and edema. At the internal os of the uterus, the cervical canal was completely encircled by an area of ulceration 1 cm. wide with a yellow, necrotic base. Microscopically, the base of the

ulcer was composed of fibrous tissue, polymorphonuclears, and round cells. In the muscularis were a few nests of carcinomatous cells. There was a moderate hydronephrosis and hydroureter on the left, caused by partial obstruction of the distal 6 cm. of the left ureter by fibrous tissue. An acute cystitis was present. The remaining organs showed the usual parenchymatous changes and a mild generalized arteriosclerosis.

*Case 2*—Mr. W. W., aged 61, white, was admitted on August 25, 1936, because of fever and pain in the right groin and thigh. In 1911 he had contracted syphilis and gonorrhea. Eleven months before entry he had a sore throat with subsequent impaired hearing and intermittent draining from the left ear. The present illness had begun two months before admission with anorexia, nausea, and occasional vomiting. A few weeks later he began to have dull pain in the right groin and thigh with lumping and limitation. Fever, weakness, and loss of weight appeared, together with some constipation and frequency. Four weeks before admission he had an abscess of the throat which discharged spontaneously. The left ear became reinfected and began to drain. This subsided, but ringing in that ear persisted. The patient was pale and undernourished, temperature, 100.2 F., pulse rate, 100, respiration, 20,



FIGURE, CASE 2 Displacement of lower sigmoid and rectum by a retroperitoneal pelvic abscess on the right side

and blood pressure, 122/70. Hearing was impaired on the left, the drum reddened and perforated. The lungs were clear. The heart showed widened basal dullness and a systolic bruit at the aortic area. The abdomen and back were negative. The extremities were emaciated. The right leg and thigh were held partially flexed, attempted extension causing pain in thigh and groin. There was no discoloration or mass. The reflexes were hyperactive but equal and there were no objective sensory changes. The right lobe of the prostate was found to be markedly enlarged and indurated but not nodular, the left lobe was small and soft. The hemoglobin was 94 per cent and the erythrocytes numbered 5,700,000. The white cell count was 16,800 with 87 per cent polymorphonuclears. The urine sediment showed an occasional pus cell and red blood cell. Blood culture, chemistry, and Wassermann and Kahn were negative. X-ray of the

chest showed aortic aneurysm, a film of the pelvis revealed chronic sacroiliac arthritis and prostatic enlargement with calcification. A gastrointestinal series was negative.

The patient's condition was interpreted as one of carcinoma of the prostate with regional metastases, although his urinary complaints were minimal. On September 6, cystoscopy showed a patchy cystitis and protrusion of the median lobe of the prostate into the bladder neck. Severe inguinal and leg pain persisted and the fever became more septic, going as high as 103.6 F. The white cell count went to 17,500 with 93 per cent polymorphonuclears, and the hemoglobin fell to 75 per cent. On September 15, a tender, nodular mass of deep inguinal nodes could be palpated. The prostate felt smaller and softer than previously. On the right side of the pelvis, extending laterally and anteriorly, there was a boggy, nodular mass, pressure upon which caused much local pain as well as pain referred to the right groin and upper thigh. The flexors of the hip were spastic. The right upper thigh measured 3 inches more than the left in circumference. A barium enema (see Figure) gave evidence of pressure on the upper rectum and lower sigmoid, with displacement of the gut to the left. On September 18, a right inguinal incision was made and 3 pints of thick pus were evacuated from a large retroperitoneal pelvic abscess. Culture yielded staphylococcus aureus. Subsequently, the patient's temperature fell to normal and his pain decreased. However, the operative wound continued to pour out pus. In spite of supportive therapy he became more cachectic, low-grade fever recurred. On October 31, he developed abdominal pain and rigidity, passed two large, tarry stools, lapsed into shock, and died.

Autopsy there were multiple ulcerations of the stomach with hemorrhage, perforation, and diffuse purulent peritonitis. The remainder of the gastrointestinal tract was negative. The operative wound communicated with a sinus

which extended into the adductor canal and continued distally about the femoral vessels to the middle of the thigh. This contained thick yellow pus. The tract also extended about the medial surface of the femur below the lesser trochanter and the inferior ramus of the right ischium and pubis. Microscopically, the tissues and lymph nodes (inguinal) showed acute inflammation. The prostate was enlarged and on microscopic examination showed adenocarcinoma and infiltration with round cells and polymorphonuclears. A number of glands were filled with purulent exudate. Syphilitic aortitis with aneurysm was present.

*Case 3*—Mrs F R, white, aged 45, was admitted October 21, 1930, complaining of pain in the right hip, thigh and knee, sweats, fever and drowsiness. Two months before entry she had fallen, injuring the knees, but not enough to keep her from continuing her housework. Subsequently, pain in the right hip and knee recurred intermittently, but finally became so constant and severe, three weeks before admission, that it confined her to bed. Fever to 101 F and sweats supervened, and five days before entry she had become very drowsy. At that time, too, she had had several watery stools. During the course of her illness she had been anorexic and had lost weight. The patient appeared chronically ill and drowsy, temperature, 98 F, pulse rate, 100, and respiration, 24. The pupils did not react to light. The tonsils were inflamed, the teeth pyorrheic. There was cystic enlargement of the right thyroid lobe. The peripheral arteries were thickened, the heart enlarged and fibrillating. A few scattered pulmonary râles were heard. The abdomen was flabby and mildly distended and had a tympanitic note except in the right upper quadrant and right flank. The liver and spleen were not felt. There was marked pain in the right hip on moving the extremity but no atrophy, redness, or swelling. The deep reflexes were absent. Rectal examination was unsatisfactory and vaginal examination showed tenderness in both fornices, more marked on the right. The hemo-

globin was 89 per cent, the red cell count, 4,580,000. The white cells numbered 13,650 with 90 per cent polymorphonuclears. The sedimentation rate (18 mm.) was twelve minutes. A voided urine specimen showed a faint trace of albumin with 20-50 pus cells per h.p.f. and an occasional red cell and cast. The blood urea was 160, the blood sugar, 100. The blood Wassermann and Kahn were negative. X rays of the hip and pelvis showed no fracture.

The patient's temperature rose to 101-104 F with pulse of 90-120. Her abdomen became more distended. The uterus and adnexa were considered free of disease but rectal examination revealed a tender, cystic mass in the pelvis to the right of the rectum. A slightly tender mass was later felt in the right flank and right lower quadrant. The patient's condition was such as to contraindicate any surgical procedure. In spite of supportive measures she became progressively worse. The white cell count rose to 17,400 with 85 per cent polymorphonuclears. Twitchings appeared and the patient lapsed into coma. She died in pulmonary edema on October 24, 1936.

Autopsy there was a fluctuant retroperitoneal mass in the right fossa displacing the cecum and ascending colon anteriorly and extending over the pelvic brim to a point slightly above the right ischial spine. It also extended along the iliac and femoral vessels to a point 10 cm below the inguinal ligament. The abscess contained 1,500 cc. of blood tinged pus which gave a pure culture of staphylococcus aureus. The entire gastrointestinal tract, including the appendix, was normal. The lungs showed areas of bronchopneumonia. There was hypertrophy and dilatation of the heart, and, microscopically, the myocardium showed large areas of fibrosis and muscle cell loss. The pelvic organs showed no significant abnormality and there was no evidence of involvement of the pelvic bones. The spleen was enlarged (450 Gm), soft, and deep purplish red. The left kidney was of normal size and showed mild cloudy swelling. The right kidney

was the same except for slight hydro-nephrosis and hydroureter. An aortic lymph node showed acute inflammation.

### Comment

In all 3 cases, in spite of a differing pathogenesis, the retroperitoneally situated pelvic abscess dominated the clinical picture and produced a syndrome having rather consistent features. There were general manifestations of sepsis, i.e., fever, chills, sweats, weight loss, anorexia, nausea and vomiting, anemia, leukocytosis, and rapid sedimentation rate. The localizing findings were pain in the region of the groin, lower back, and hip, radiating down the extremity, spasm, flexion, and limitation of the hip on the affected side, a tender boggy pelvic mass palpable rectally. In Case 1 the mass also became palpable above Poupart's ligament, and lymphatic block caused edema of the foot and leg on the side of the abscess. In Case 2 the deep inguinal nodes were palpable and tender, and extension of the suppurative process along the femoral vessels into the adductor canal resulted in a relative increase in circumference of the thigh on the affected side. In this patient, too, displacement of the lower sigmoid and rectum was demonstrated by barium enema.

The abscesses in these cases were apparently the result of acute inflammation and suppuration in the external iliac and hypogastric group of lymph nodes. These nodes receive afferents from the various pelvic organs and structures as well as from the deep subinguinal group of glands which drain the extremity. In Case 1 a hemolytic streptococcus infection, complicating carcinoma of the cervix, spread laterally through the broad ligament to produce the abscess. In Case 2 the focus of origin was in the prostate, where acute inflammation and adenocarcinoma were demonstrated microscopically, although direct symptoms of prostatic involvement were minimal during life. The causative organism was the staphylococcus aureus. In Case 3 the pathogenesis of the abscess remains obscure. The only definite factor concerned seemed to relate

to her injury two months before. There was no evidence of fracture, but a soft tissue injury which had subsequently cleared may have served as a focus for lymphatic spread of staphylococcal infection to the pelvic nodes.

The only consideration that this type of pelvic suppuration has received in the literature of the present century has come from workers in the various surgical specialties, under circumstances where its pathogenesis has usually offered little diagnostic difficulty. Herman and Stuart<sup>1</sup> reported on abscess in the extraperitoneal retrovesical or perivesical spaces in the male. In the cases reported by these authors the genitourinary complaints were outstanding and the immediate focus of origin was perivesiculitis or periprostatis (venereal and non-venereal). Pugh,<sup>2</sup> discussing pelvic cellulitis in the male, reported 9 cases of pelvic suppuration, most of which followed transurethral prostatectomy. Genitourinary symptoms predominated both in the antecedent history and in the symptomatology of the abscesses themselves. Savitz<sup>3</sup> gives detailed consideration to prevesical abscess or "abscess of the space of Retzius." According to this author, chronic bladder infections (on the basis of intravesical calculus, tumor, diverticula, tuberculosis, etc.) more often cause pericystitis and lead to prevesical suppuration than do acute vesical inflammations. Trauma, operative or instrumental, as well as metastasis from a distant focus, may lead to abscess of Retzius' space. The symptoms found in this condition are mainly those of bladder irritation. Physical examination reveals a suprapubic painful mass, a pelvic mass anterior to the bladder, signs and symptoms of a septic process, and cystoscopic evidence of bladder inflammation.

The gynecologic literature on pelvic abscess is confusing in that the reports so often consider the intraperitoneal and extraperitoneal varieties together. The extraperitoneal intraligamentous type is usually puerperal in origin. It may extend widely up under the lateral pelvic peritoneum and may point in the groin,

lumbar, or kidney regions, or may even extend over Poupart's ligament down the thigh or into the subcutaneous tissues of the abdominal wall. Wharton<sup>4</sup> notes that the focus of infection in the broad ligament may clear up making it difficult to establish the etiology of the purulent collection. In such cases it is necessary to have careful study, including x rays of the spine, hips, and bony pelvis, to exclude a distant focus for a burrowing abscess. As distinguished from this retroperitoneal extension of puerperal infections, nonpuerperal pelvic abscess has its chief focus in the Fallopian tubes and spreads into the pelvic or abdominal cavities. According to Gardner,<sup>5</sup> the precipitating factors of pelvic cellulitis in the female are puerperal sepsis and infected abortions, repeated insertion of gold-stem pessaries, cauterization of the retroflexed uterus, carcinoma of the cervix, and as a complication of induced abortion. His observation that pelvic cellulitis is a frequent complication of carcinoma of the cervix, because most cancers of the cervix are infected with streptococci, is interesting in the light of the history of Case 1 in this report.

Suppuration in the hip joint may be the origin of retroperitoneal pelvic abscess. Freiberg and Perlman<sup>6</sup> report 7 cases of this type occurring in children. The intracapsular structures of the hip joint are drained by lymphatics emptying into the group of glands situated about the external iliac and hypogastric arteries. In the 7 cases reported, iliac abscesses had formed as a result of secondary infection of the external iliac glands from acute purulent arthritis of the hip. Five of the cases had pre-existent or present otitis media, and of these 4 had streptococcus septicemia and 3 had mastoiditis. The children were feverish and sick looking, the affected hip abducted, externally rotated, and flexed. In most there was a visible fullness above and below Poupart's ligament. All hip motions were restricted by spasm and pain, the inguinal glands were enlarged and prominent, and a firm semispherical mass could be felt above Poupart's ligament.

TABLE 2. RETROPERITONEAL PELVIC ABSCESS  
Classification as to Origin

|  |  |
|--|--|
| 1. Intestinal  |  |
| a. Retrocecal or subcecal appendicitis   |  |
| b. Sigmoidal diverticulitis  |  |
| c. Perforation of colonic carcinoma  |  |
| d. Perforation of colonic ulcer  |  |
| 2. Orthopedic  |  |
| a. Suppurative arthritis of hip  |  |
| b. Suppurative sacroiliac arthritis  |  |
| c. Caries of spine—tuberculous or nontuberculous   |  |
| d. Traumatic (particularly fractures of pelvis)  |  |
| 3. Urologic  |  |
| a. Pericystitis (due to calculus diverticulum neoplasm, tuberculosis, etc.)  |  |
| b. Prostatitis and perivesiculitis (venereal and nonvenereal)  |  |
| c. Instrumentation or operation (particularly transurethral prostatectomy)   |  |
| d. Complicating lymphogranuloma venereum   |  |
| 4. Gynecologic   |  |
| a. Postpartum and postabortal endometritis   |  |
| b. Secondary infection of neoplasms (malignant or benign)  |  |
| c. Operation or instrumentation (cauterization, curettage, insertion of gold-stem pessaries, air and oil insufflation, etc.) |  |
| d. Laceration of cervix or perineum  |  |
| 5. Hematogenous (from some distant focus e.g. otitis or mastoiditis)   |  |
| 6. Unknown   |  |

X rays showed the abnormalities of the hip joint in each instance, and in most cases a soft tissue shadow of the iliac abscess.

Bloom<sup>7</sup> notes that suppuration of iliac and pelvic glands may occur as a rare complication of lymphogranuloma venereum. One of his patients had bilateral suppurating inguinal adenitis. This subsided, but a pelvic mass subsequently appeared followed by discharge of much pus through the wound of the previous bubo.

In Table 2 retroperitoneal pelvic abscess is classified as to its various modes of origin. It is obvious that in the majority the abscess occurs as a readily diagnosable complication of a pre-existing lesion. However, in many instances the abscess itself dominates the picture and the focus of origin may give few or no symptoms, or be entirely unknown. In such cases particularly, knowledge of the clinical manifestations of retroperitoneal pelvic abscess will aid in early diagnosis and prompt surgical treatment.

### Summary and Conclusions

Three cases of retroperitoneal pelvic abscess which came to autopsy are reported. One was of gynecologic, one of genitourinary, and the other of ques-



tionable traumatic genesis The various origins for this condition are mentioned, but stress is laid upon the fact that cases occur in which these origins are subordinate or indeterminate in the clinical picture. Recognition of the general and localizing features of the syndrome produced is essential for early diagnosis and adequate treatment. The condition is characterized by general manifestations of sepsis, i e, fever, chills, sweats, weight loss, anorexia, nausea and vomiting, anemia, leukocytosis, and rapid sedimentation rate, the localizing features consist of pain in the groin, lower back, and hip radiating down the leg, spasm, flexion, and limitation at the hip and a tender, boggy pelvic mass felt rectally Other signs which may be present are palpable deep inguinal nodes or mass, increase in circumference of the thigh on the affected

side, edema of the ipsolateral leg and foot, and displacement of the gut demonstrable by barium enema

. . .

The authors are grateful to Doctors Tasker Howard, John B D'Albora, and Thomas M Brennan for aid and encouragement

27 Eighth Avenue

### References

- 1 Herman, L, and Stuart, B J Urol, 8 323-338 (Oct), 1922
- 2 Pugh, W S Urol & Cutan Rev, 38 621-628 (Sept.), 1934
- 3 Savitz, S P Am. J Surg, 35 113-116 (Jan.), 1937
- 4 Wharton, L R. Arch Surg, 2 246-314 (Mar), 1921
- 5 Gardner, G H Northwest Med, 34 417-424 (Nov) 1935
- 6 Freiberg, J A, and Perlman, R. J Bone & Joint Surg, 18 417-427 (Apr), 1936
- 7 Bloom, D N Y State J Med, 38. 616-625 (Apr 15), 1938

### REFUGEE PHYSICIANS AND CITIZENSHIP

The influx of refugee physicians has focused attention on the question of citizenship in the granting of licenses to practice medicine.

J E McIntyre, M D, Lansing, Mich, secretary of the Michigan State Board of Registration in Medicine, in *The Journal of the American Medical Association* for March 18 says

"It is interesting to note that most states have already required either United States citizenship or first papers as a condition precedent to taking the state board examinations Only the following states require neither full citizenship nor first papers at the present time California, Illinois, Massachusetts, New Hampshire, New Mexico, New York, Ohio, Texas, Utah, and the District of Columbia Either by state law or by a ruling of the state boards of registration in medicine, the following states now require full United States citizenship Alabama, Arkansas, Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Michigan, Missouri, Montana, Nevada, Nebraska, North Carolina, North

Dakota, Oklahoma, South Carolina, South Dakota, West Virginia, Wyoming, and, except in the case of Canadians, Arizona, Iowa, and Minnesota

"States now requiring that first papers for United States citizenship must be taken out are Colorado, Connecticut, Idaho, Louisiana, Maine, Mississippi, New Jersey, Pennsylvania, Rhode Island, Virginia, Washington, and Maryland except in the case of Canadians In addition to these requirements there is a great variety of other restrictions

"In some states, such as South Carolina and Wyoming, foreign graduates are not accepted under any circumstances In some other states there is a requirement of a senior year's work in an approved United States medical school and a one year rotating internship in a United States hospital approved for internship training Still others require that the candidates pass the National Board examination and apparently there is no uniformity whatever as to these special requirements "

"Are hard-boiled eggs beneficial to a girl just over twenty?" somebody asks a medical-advice column Well, we should think much would depend on whether she was going to eat them or step out with them —*Boston Herald*

One candle power of intelligence applied in early diagnosis or in the elimination of the known precancerous situation will be far better than any million volts of irradiation for late cancer displays —E H Skinner, *Radiology*

# MALIGNANT MANIFESTATIONS OF BOWEN'S DISEASE

ARTHUR PURDY STOUT, M D , New York City

(From the Surgical Pathology Laboratory of the College of Physicians and Surgeons, Columbia University and the Department of Surgery of the Presbyterian Hospital, New York)

**B**OWEN'S disease is a lesion involving skin and certain mucous membranes which is considered by some as a pre-cancerous dyskeratotic process and by others as a highly specialized form of superficial epithelioma which has a lateral intraepithelial spread. It is only occasionally that it manifests the more usual phases of malignant tumors, namely penetrating growth and metastasis. After a rather careful perusal of reported cases, it was possible to find accounts of only 32 patients whose tumors exhibited these signs of clinical malignancy. In 24 this was limited to penetrative growth, while in 8 others there were metastases. Cancerization in Bowen's disease produces tumors which differ morphologically from the commoner epidermoid cancers and which sometimes metastasize without easily demonstrable evidence of local violation of the basement membrane. This last feature is a rare peculiarity also exhibited among the epidermoid growths by melanomas, extramammary Paget's disease, and the erythroplasia of Queyrat. The 2 cases to be presented illustrate these peculiarities.

From the literature it is not possible to estimate the frequency with which Bowen's disease becomes clinically malignant because no large groups of cases have been reported. The combined material of the surgical and the dermatological pathology laboratories of Columbia University includes 57 cases of Bowen's disease during the past nine years. Of these, 55 were in the skin, 1 was in the anterior nares, and 1 in the floor of the mouth. One of the skin cases and the lesion on the floor of the mouth were malignant—about 3.5 per cent of the total number. This bears out the im-

pression that mucosal Bowen's disease is more frequently malignant than when the lesion is in the skin. Twelve of the 32 reported cases of malignant Bowen's disease were mucosal in origin—a cancerization rate of about 40 per cent for mucosae compared with only 2 or 3 per cent for the much more frequent skin lesions.

Before describing cancerization in Bowen's disease it will be well to review briefly its salient features. On the skin the lesions may be single or multiple. They may be associated in the same individual with other varieties of skin tumors such as senile keratoses, angiomas, pigmented moles, sweat gland adenomas, and basal and squamous cell epitheliomas. They may begin spontaneously or follow radiation dermatitis, experimental skin tarring in animals or arsenic (Anderson, Bloch, and Guggenheim) or they may develop in senile keratosis (Hockey). The lesions appear in the senile type of skin and usually run a very long course up to forty years (Daniel). The very early lesion is usually a scaly or crusting papule which is dull red, slowly thickens and spreads peripherally without induration, forming multiple agglomerated patches or discs. If the crust or scale is removed the exposed dull red surface may be finely papillary and moist. If it involves a flexion crease or body fold it may be macerated or even superficially ulcerated. Some lesions undergo spontaneous cancerization in one part while progressing in another. The lesion may also affect certain mucous membranes, especially the vulva, vagina, pars vaginalis of the cervix uteri, the glans penis and prepuce, and the ectodermal portions of the oral

and nasal mucosae.\* The appearance of the mucosal lesions depends upon whether or not keratinization of the surface occurs. In one type it forms an intensely red, velvety, slightly thickened patch which cannot be distinguished from the erythroplasia of Queyrat. If there is surface keratinization, the reddish color is masked by white patches of leukoplakia.

The diagnosis of Bowen's disease depends upon the histopathologic changes. The epidermal layer is thickened and sometimes made papillary by a multiplication and disorientation of the Malpighian cells. The cells vary in size and shape, there are many mitoses, and some of them are apt to be abnormal. Monster cells with several nuclei centrally clumped together were originally described by Bowen and are important diagnostic features. Darier coined the word "poikilocarynosis" to describe this cellular variation and unrest. Foam cells with vacuolated cytoplasm, first described by Kriebich, are frequently found and sometimes isolated cell nests, which were first reported by Grzybowski. Many of the cells have vacuoles partly surrounding the nucleus, while in a few the vacuole completely surrounds it giving a double contoured effect—these are Darier's "corps ronds". Intracellular fibrils are usually lost although intercellular bridges are often retained. The corneal layer is thickened, shows parakeratosis and sometimes small hyalinized balls or granules which are assumed to be the final transformations of the clear cells. The basal membrane remains intact but the palisade arrangement of the basal layer often disappears. The papillary layer is heavily infiltrated with a variety of mononuclear cells including lymphocytes, histiocytes, mast cells, and plasma cells. The deeper part of the corium is free and the lesions do not, as a rule, involve the sweat glands and sebaceous glands, although occasionally the superficial part of a hair shaft may show the changes.

The superficial elastic tissue disappears (Civatte).

In the mucous membrane the picture varies depending upon whether or not there is any hyperkeratosis. The other changes are often not as clear-cut and distinctive, but unless poikilocarynosis is present the diagnosis is not valid.

When this intraepithelial growth becomes clinically cancerous it does so rather insidiously and in two different ways. In one group may be placed the cases which form malignant tumors which have been classified with the better known and commoner epidermoid cancers. Thus we find squamous cell epitheliomas reported by Delbanco, Fuhs, Goldsmith, Königstein and Mondain and Cailliau, basal cell tumors by Dubreuilh and Magimel, Goldberg, and Mount, sebaceous gland epithelioma by Flarer, and sweat gland epithelioma by Grzybowski. In all of these cases there is a heaping up of cells with the formation of a tumor nodule which may either fungate or ulcerate. It must be remarked, however, that all of these tumors were atypical or metatypical so that the reporters had difficulty in classifying the tumor type—indeed I question whether any of the reported basal cell tumors belong in this group at all, it would seem that they are either not cases of Bowen's disease or else they are Bowen epitheliomas and belong to the second group described below. The sweat gland and sebaceous epitheliomas are each single case reports which are possibly simply fortuitously associated with Bowen's disease. In any event, the only tumor form which can be accepted without reserve is the atypical squamous cell epithelioma. In this group the tumors are locally infiltrative but they do not metastasize. Case 1, reported below, is an example of this class.

The second group should properly be called Bowen epitheliomas because they reproduce the poikilocarynosis of the intraepithelial lesion and do not resemble any of the other classical types of epidermoid epitheliomas. All of the cases

\* Since completing this paper, we have also observed a case involving the vocal cord which will be described in a subsequent communication.

which metastasized belong to this group.\* In the 10 cases of Grütz, Gutmann, Jorno, Noguer Moré, Richon and Gougerot, and Burnier and Eliaheff, there was only infiltration of the subepithelial tissues as an indication of malignancy, but in 8 other cases reported by Danel, Darier (1920), Dufke, Kuznitzky and Jacoby, Massia and Rousset, Molesworth, Pautrier, and Postma and In singer, in addition to more or less local changes there were metastases. Five of these are known to be dead, 1 was reported well seventeen months after roentgen therapy of the vaginal lesion and excision of the inguinal lymph nodes, and in 2 others the result is unknown. The striking feature of these malignant forms of Bowen's disease is the relatively slight degree of local infiltration. In Massia and Rousset's case there was no infiltration beneath the basement membrane in the biopsy, and in Postma and In singer's tumor the infiltration was microscopic. The cases of Danel, Darier (1920), Molesworth and Pautrier showed only insignificant ulceration and infiltration and only in Dufke's tumor was there deep ulceration. This fact is stressed because Case 2 of the present report showed complete absence of local infiltration in the sections studied although the tumor metastasized. Jorno found in his case that there was evidence of penetration beneath the basement membrane in only 2 of 100 serial sections. These facts demonstrate beyond question that the cells may metastasize while there is still no demonstrable clinical evidence of malignant change in the primary lesion. Crivatte remarks that cancerization in Bowen's disease in his experience has occurred only in cases that have been traumatized by ineffectual attempts at local destruction. This was true of Case 2 in the present report.

### Case Reports

Case 1—J W male, 68 years old (P&S 15510). This patient had had a lesion char-

\* I was unable to consult the report of Kuznitzky and Jacoby so that I can only surmise that it belongs to this group because of the title which calls it "Bowen's epithelioma."



FIG 1 CASE 1 The lesion in front of the left ear showing the elevation caused by the tumor with its necrotic center and the senile changes in the skin of the cheek

acteristic of Bowen's disease on the dorsum of the right wrist for the past fifteen years and during that period a number of senile keratoses had appeared on both hands. There was no history of arsenic ingestion or other definitive etiologic factor. Three months before admission a small reddish 'pimple' appeared in front of the left auricle (Fig 1). This spread rapidly, itched and soon broke open in the center after which there was soreness in it. When examined there was a rounded area of reddening and in duration 2 cm. in diameter with the central 5 mm. ulcerated. After treatment with wet compresses for several days much of the surrounding redness diminished. No adenopathy was recorded. The lesion was biopsied on February 18, 1938 and the whole area was excised on March 4.

The tissue excised consisted of an elliptic area of skin and subcutaneous tissue 42 × 15 mm. in area, and 8 mm. thick. In the center of the skin was a slightly elevated area 1 cm. in diameter the central 2 mm. of which were ulcerated. The surrounding skin appeared slightly reddened and scaly (Fig 2). Microscopic examination showed that the tumor is composed of cords of cells which spring from the epidermis



FIG 2, CASE 1 Cross section of the excised tumor showing the extent of penetration to the depths of the corium, the thickening and hyperkeratinization of the overlying epidermis and the undifferentiated arrangement of the tumor cell cords

and infiltrate to the depths of the corium. The cells forming the cords are of large and sometimes monster size but always with single nuclei. No stratification is seen and no intercellular bridges, but a few tonofibrillae and some intracellular keratin can be recognized in some of the cells. Occasional imperfectly formed pearls are seen. Mitoses average one in every 2 or 3 high power fields and some are atypical. The tumor is covered with a thick layer of keratinized epithelium and its center is slightly depressed and ulcerated. Many of the tumor cells have large cytoplasmic vacuoles and others have foamy cytoplasm (Fig 3). The skin on one side of this tumor shows marked epidermal poikilocarynosis. The various epidermal layers are no longer distinguishable—instead there is a confused mass of large and small cells, some giant forms with clumped nuclei, many mitoses, cells with vacuoles partly surrounding the nucleus, "corps ronds," and occasional foam cells. Hyperkeratosis is not marked and parakeratosis is found occasionally (Fig 4). The process sometimes involves the epidermal sheaths of the hair shafts. As one approaches the tumor, the rete pegs affected by this process become enormously thickened and lengthened. Externally the process gradually fades out but nowhere in the excised tissue is there perfectly normal epidermis. The papillary layer and to some extent the underlying corium are infil-

trated by many lymphocytes, plasma cells, monocytes, and occasional polymorphonuclear neutrophils.

*Comment*—This case is unusual because of the short duration and the lack of the more characteristic gross appearances of Bowen's disease. However, all writers agree that the diagnosis of Bowen's disease is dependent upon the histopathology, and the epidermal changes immediately adjacent to the infiltrating tumor fulfill the important criteria. The malignant tumor itself, while decidedly unusual, is unmistakably a poorly differentiated squamous cell epithelioma.

*Case 2*—Male, 63 years old (S.P. 52749). Eighteen months before admission, when cleaning his teeth he noticed a small red spot to the left of the frenum in the floor of the mouth. It gave no symptoms. Previous to this he had smoked 5 to 6 pipes per day but after noticing the spot he changed to cigars. In spite of mouth washes the spot grew slowly larger without pain or bleeding. On examination in September, 1932, a slightly thickened, intensely red patch was found on the floor of the mouth anteriorly, chiefly to the left of the frenum but also extending slightly to the right side. It measured

2.5 X 2 cm and was very slightly elevated. It was velvety and barely palpable. There were just palpable upper cervical nodes on both sides of the neck. The possibilities of superficial epithelioma and phenolphthalein eruption were considered and a biopsy taken on September 23 1932 on which a diagnosis of Bowen's disease was made. It was decided to treat him with interstitial radium but this could not be started at once because he at first refused to allow his carious teeth to be extracted. When this was finally accomplished he was given interstitial radium by means of five short needles between



FIG. 3 CASE 1—X 1700 (reduced) Detail of tumor cells showing the variation in size hyperchromatism of nuclei with their prominent nucleoli and intracellular fibrils. The faintly stained ones are tonofibrillae and the deeply stained thicker ones are keratin.

November 9 and November 15 receiving a total of 500 mg. hours. When the reaction had subsided on December 20 no trace of the lesion could be found. However by February 10, 1933 three months after treatment an area of redness appeared on the left side immediately posterior to the original area and this spread slowly backward along the left alveolingual gutter. He returned to the hospital when the lesion measured 2 X 1.3 cm. and the whole area was excised on November 13 1933 one year after treatment. It was still superficial without any induration



FIG. 4 CASE 1 Detail of the epidermis at one side of the tumor showing marked poikilocarynosis with the formation of many atypical cell forms including a cell with clumped nuclei at the right. The basement membrane is preserved and the marked subpapillary inflammatory cell infiltration is seen below.

and no cervical node enlargement was noted. He remained well for two and one half years and then on May 27, 1936 a hard node appeared deep to the sternomastoid in the left upper cervical region. An x-ray of the chest showed no evidence of lung or mediastinal involvement. After some discussion a complete radical upper and lower neck dissection including all of the lymph nodes was done according to the Semken technic. Examination showed metastases in the node palpated which lay at the apex of the posterior triangle of the neck and also in one of twelve supraclavicular nodes sectioned. He then received roentgen therapy. From July 30 1936 to August 19 1936 two 8 X 10 cm. right and left cervical fields received 1200 and 2400 r respectively with the factors 200 k.v. and either T.S.D. 50 25 M.A. and 2 mm. cu. and 1.25 mm. al. filter or T.S.D. 50 M.A. 25 and 1 mm. cu. plus 1 mm. al. filter. A daily dosage of 200 or 300 r was used. Following the subsidence of the reaction an almost board like induration of the entire left neck remained. Further roentgen therapy was given from October 23 to October 29 1500 r to a larger 10 X 15 cm. field in the left neck and finally from October 30 to November 4 1000 r to a low 8 X 10 cm. supraclavicular field. This made a total of 4900 r to the left side and 1200 r to the right side of the neck.

When last seen on March 9 1938, seven years



FIG 5, CASE 2 The lesion on the floor of the mouth excised after reappearance following failure of interstitial radium treatment. It shows the superficiality and sharp definition of the involved area and the marked inflammatory reaction in the papillary and subpapillary layers.

after the onset of his disease and twenty months after removal of the cervical metastases, he was in good general condition. There was no evidence of disease in the mouth and the left side of the neck was still almost board-like without any nodules in it so that it was impossible to say whether the induration was solely a postradiation effect or whether there was any persisting tumor.

*Microscopic examination* of the mouth shows the same picture both in the biopsy and in the lesion excised after failure of radiotherapy. The mucosal coat is everywhere thickened and profoundly altered (Fig 5). It is no longer arranged in definite layers; instead its cells are irregularly disposed and vary in size and shape. Several of them are quite large and some of these have 2 or more nuclei which tend to be clumped together toward the center of the cell (Fig 7). Many cells have a clear zone partly surrounding the nucleus. Mitoses are frequent, averaging 1 in every high power field, and some of them are bizarre and atypical. Except at the very margin of the tumor where it adjoins normal mucosa there are no intercellular bridges between the cells (Fig 6). A few of the cells show intracellular fibrils and some show traces of intracellular keratin. On the oral surface is a thin keratinized layer of flattened cells. No foam cells of Kreibich are seen, nor are there any cell nests of Grzybowski. There are no epithelial pearls. The basal layer as such has disappeared and is replaced by tumor cells. The basement membrane seems everywhere preserved. In the original biopsy the rete pegs are sometimes greatly elongated and tangential sectioning makes them appear like infiltrating cell groups. Careful inspection shows, however, that they all are surrounded by a clear-cut basement membrane so that nowhere is there definite evidence of invasion. The papillary layer and the submucosa show a great many

engorged capillaries and a dense infiltration chiefly of plasma cells and lymphocytes. The underlying striated muscle is not affected.

*Lymph nodes*—Both nodes are much enlarged and completely replaced by neoplasm. This consists of anastomosing cords of cells which are

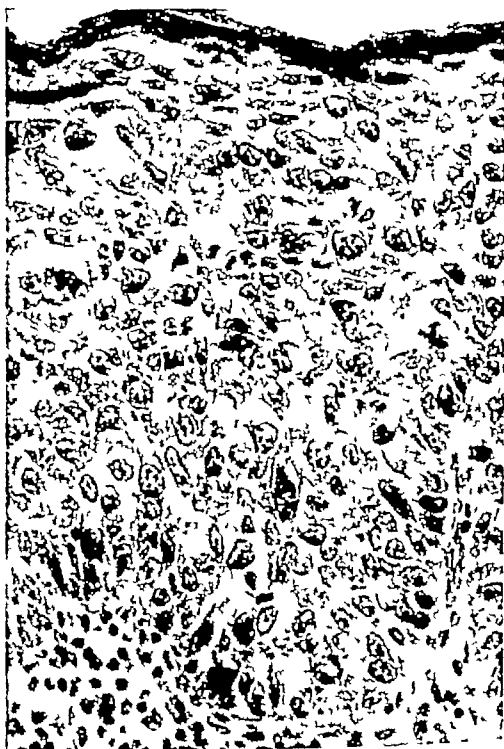


FIG 6, CASE 2— $\times 625$  (reduced). Detail from Fig 5 showing a marked degree of poikilocarynotosis with the formation of atypical cells, bizarre mitoses, and loss of stratification. There are many cells with vacuoles partially surrounding the nuclei. The basement membrane is intact.

quite large with hyperchromatic nuclei and a great many mitoses, averaging 3 in every high power field. Many are atypical. There are many gigantic tumor cells with multiple bizarre nuclei. In some the nuclei are clumped. There are no intercellular bridges, no intracellular fibrils or keratin and no pearls (Fig 8). The large cords of tumor cells often have necrotic centers. The stroma is fibrous and infiltrated with inflammatory cells. Only traces of lymphoid tissue remain. This picture reproduces the appearance of the primary tumor except that there is much less differentiation. There is no evidence of pigmentation either here or in the primary tumor.

*Comment*—This case fulfills the requirements for an unqualified diagnosis

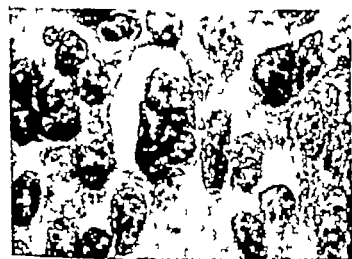


FIG 7 CASE 2— $\times 1700$  (reduced). One of Bowen's clumping cells' with an incomplete vacuole about the nucleus. Note absence of intercellular bridges and intracellular fibrils.

of Bowen's disease with metastasis. It is apparent that the clinical appearance corresponds with that of erythroplasia. As many writers have pointed out, one form of mucosal Bowen's disease cannot be distinguished clinically from erythroplasia so that they can only be separated microscopically. Although about 75 sections were prepared of the mouth lesions, in none of them was there evidence that the basement membrane had been penetrated. One cannot doubt that the penetration must have occurred at some point, for otherwise metastasis would be inconceivable, but it is also evident that this must have been only microscopic in degree.

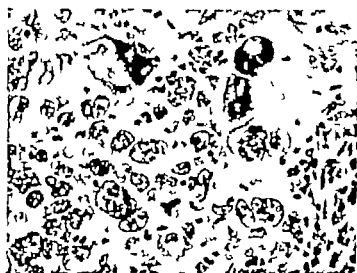


FIG 8 CASE 2— $\times 625$  (reduced). Detail of metastatic cells in a cervical lymph node. Extremely bizarre and often multinucleated cells atypical mitosis perinuclear vacuolation which in some instances is complete (corps ronds) and complete absence of epidermoid differentiation.

## Discussion

Bruno Bloch, in his masterly discussion of the precancerous state, has pointed out that 'as long as we do not know the biochemical changes which characterize the cancer cell and differentiate it from the normal mother cell, we shall be unable to know wherein lies the essential characteristic of a precancerous change or, in other words, the problem of an unequivocal definition of precancerosis is at present insoluble.' Since those words were published in *The Cancer Review* in 1932, no further information has come to light to invalidate them, and therefore no attempt will be made to discuss the question as to whether Bowen's disease is a cancer from the outset or whether it is a precancerosis which only occasionally becomes cancerous.

It seems definitely established that the lesion called Bowen's disease is a disturbance of epidermal and certain ectodermal mucosal cells characterized by the production of certain bizarre cell forms, by a loss of the orderly arrangement of the epidermis or mucosa affected, and associated with a marked inflammatory reaction. It is quite distinct from all other lesions including



Paget's disease with which it is sometimes confused. The characteristic Paget cell is never found in Bowen's disease. Usually Bowen's disease occurs in the skin and oral, nasal, or genital mucosae of elderly people without known etiology but it can be induced by the well-known carcinogenic agents x-ray, tar, and arsenic. In 2 or 3 per cent of skin cases and in about 40 per cent of mucosal cases clinical cancer results. This may be of two morphologic types: first an atypical or metatypical squamous cell epithelioma, as demonstrated in Case 1, or a true Bowen epithelioma with reproduction of the bizarre characteristics of the Bowen cells without any other epidermoid features. This is a malignant cancer which metastasizes. An important feature of the true Bowen epithelioma is the occurrence of metastasis with a minimal amount of local penetration which may defy clinical detection and even escape ordinary microscopic study, so that only serial sectioning of the entire lesion will reveal it. Case 2 is an example of the Bowen epithelioma.

Whether or not Bowen's disease is a precancerosis or cancer from the start, it is evident that it may become a clinical cancer and therefore merits respect. Incomplete destruction of a lesion has several times been followed by the appearance of metastases and it must therefore be considered a dangerous practice to employ measures which may fail. These include irradiation and all chemicals. There is only one proper method for dealing with Bowen's disease and that is complete surgical excision. It is better to employ no treatment at all than to risk incomplete destruction.

## Summary

Two cases of malignant Bowen's disease are reported, 1 an atypical squamous cell epithelioma in the skin of the face and the other a Bowen epithelioma in the floor of the mouth with metastases in the cervical and supraclavicular lymph nodes. The latter case illustrates the possibility of metastasis from a Bowen

lesion without the discovery of gross or microscopic evidence of penetration of the basement membrane. The importance is stressed of complete surgical excision of Bowen lesions rather than treatment by irradiation, chemicals, or any other methods.

## References

- Ambrogio, A. *Pathologica* 25 804 (1933)  
 Anderson, N. P. *Arch. Dermat. & Syph.*, 26 1052 (1932)  
 Arzt, L. *Zentralbl. f. Haut-u. Geschlechtskr.*, 30 554 (1929)  
 Beck, S. C. In *Handbuch der Haut-u. Geschlechtskr.*, 12 3 *Geschwulste der Haut* (2) pp 433-440, Berlin J. Springer, 1933  
 Bloch, B. *Schweiz. med. Wchnschr.*, 54 857 (1924)  
 Zentralbl. f. Haut-u. Geschlechtskr., 21 42 (1927)  
 Dermat. Wchnschr., 91 1164 (1930) *Cancer Review* 7 65-98 (1932)  
 Bosellini, P. L. *Dermat. Wchnschr.*, 91 1173 (1930)  
 Proc. Roy. Soc. Med. (Sec. Derm.), 18 57 (1925)  
 Bowen, J. F. *J. Cutan. Dis.*, 30 241 (1912) *J. Cutan. Dis.*, 33 787 (1915)  
 Bruusgaard. *Acta dermat.-venereol.*, 8 110 (1927)  
 Cailliau, F. *Cancer, Bruxelles*, 11 81-90 (1934)  
 Carol, W. L. L. *Arch. f. Dermat. u. Syph.*, 152 684-707 (1926)  
 Civatte, A. *Congreso Internat. Monografico de Cancer de la Piel, Barcelona 1929*, 2 518-524 *Nouvelle Pratique Dermatologique*, Masson et Cie, Paris, 6 636-663 (1936)  
 Crosti, A. *Gior. ital. di dermat. e sif.*, 69 1054-1070 (1928)  
 Danel, L. *Ann. de dermat. et syph.* (6th ser.), 4 529 (1923)  
 Darier, J. *Ann. de dermat. et syph.*, 5 449-471 (1914-1915) *Bull. Assoc. franç. p. l'étude du cancer*, 9 177 (1920) *Ann. de dermat. et syph.* (6th ser.), 1 49 (1920)  
 Delbanco, E. *Dermat. Ztschr.*, 45 134 (1925)  
 Dubreuilh, W., and Magmel, L. *Bull. Soc. franç. de dermat. et syph.*, 34 130 (1927)  
 Dufke, F. *Arch. f. Dermat. u. Syph.*, 156 424 (1928)  
 Ehrmann. *Zentralbl. f. Haut-u. Geschlechtskr.*, 20 276 (1926)  
 Eliaschew, O. *Arch. dermat. u. syph.* 2 114-135 (1930)  
 Flarer, F. *Gior. ital. di dermat. e sif.*, 74 873-887 (1933)  
 Fraser, J. F. *Arch. Dermat. & Syph.*, 18 809 (1928)  
 Fuhs, H. Discussion of paper by Geiger, R., *Zentralbl. f. Haut-u. Geschlechtskr.*, 34 27 (1930)  
 Geiger, R. *Zentralbl. f. Haut u. Geschlechtskr.*, 34 27 (1930)  
 Goldberg, L. C. *Arch. Dermat. & Syph.*, 36 47-52 (1937)  
 Goldsmith, W. N. *Proc. Roy. Soc. Med.*, 25 1033 (1932)  
 Gougerot, Burnier and Eliaschew, O. *Arch. dermat. u. syph.*, 2 480 (1930)  
 Grütz, O. *Ztschr. f. Krebsforsch.*, 21 415 (1924)  
 Grzybowski, M. *Ann. de dermat. et syph.*, 4 198-219 (1933) *Ann. de dermat. et syph.*, 7 598 (1930)  
 Guggenheim, L. *Arch. f. Dermat. u. Syph.*, 168 26-48 (1933)  
 Gutmann, C. *Dermat. Wchnschr.*, 80 641, 676 (1925)  
 Heilmann, W. J. *J. Cancer Research* 1 343 (1916)  
 Highman, W. J. *M. J. & Rec.*, 116 367 (1922)  
 Hissink, A. C. *Zentralbl. f. Haut-u. Geschlechtskr.*, 5 31 (1922)  
 Hookey, J. A. *Arch. Dermat. & Syph.*, 23 946-1020 (1931)  
 Howarth, W. *J. Laryng & Otol.*, 50 28-32 (1935)  
 Hudelo, L., and Cailliau. *Ann. de dermat. et syph.*, 4 813-833 (1933)  
 Hudelo Oury and Cailliau. *Bull. Soc. franç. de dermat. et syph.*, 29 139 (1922)  
 Jessner, S. *Arch. f. Dermat. u. Syph.*, 134 361 (1921)  
 Jorno, J. *Ann. de dermat. et syph.*, 7 369-389 (1930)  
 Juon, M. *Arch. f. Dermat. u. Syph.*, 157 81-96 (1929) *Arch. f. Dermat. u. Syph.*, 157 97-104 (1929)  
 Schweiz. med. Wchnschr., 59 1206 (1929)  
 v. Kolb, A. *Dermat. Wchnschr.*, 96 96 (1933)  
 Kreibich, C. *Arch. f. Dermat. u. Syph.*, 154 273 (1928)

Königstein Zentralbl. f. Haut u. Geschlechtskr., 22: 314 (1927)  
 Kuzmitsky, E. and Jacoby, H. Wissensch. Festachr. Josef Reinhold pp 97-107 (1936)  
 Mackree, G. M. and Cipollaro A. C. Cutaneous Cancer and Precancer New York 1937 Bowen's Disease, pp 161-168.  
 Maschkeleson L. N. and Neradoff L. A.: Dermat. Wechschr. 94: 533 (1933)  
 Masala, G., and Rousset, J. Marseille-méd. 813 (1930)  
 Mazza, H. L. Bol. Inst. de med. exper para el estud. y trat. d. cáncer, 13: 503-508 (1930)  
 Moirsworth E. H. J. Cancer Research Com. Univ. Sydney 6: 64-70 (1934)  
 Mondain, Ch. & Camille P. Bull. Assoc. franç. p. l'étude du cancer 12 680 (1923)  
 Mount, L. B. Arch. Dermat. & Syph. 4: 760 (1921)  
 Nicolas, J., Masala, G., and Rousset, J.: Ann de dermat. et syph. 1: 1113 (1930)  
 Noguer Moré S. Ecos. Española de Derm y Sifil. 7: 290 (1930) (Abst.) Ann. de dermat. et syph. 2 (7th ser) 800 (1931)  
 Paatrick L. M.: Bull. Soc. franç. de Derm. & de Syph. 29 (R.S.) 57-61 (1922)  
 Périn, L. de Douhet, J. and Lefèvre, M.: Bull. Soc. franç. de dermat. et syph. 44 987 (1937)  
 Postma, C., and Insainger F. G. Acta dermat. venerol., 8: 474 (1928)  
 Riehon, L.: La maladie de Bowen des muqueuses et sa cancérisation Thèse de Paris 1924. Ann de dermat. et syph. 6 (8th ser) 191 (1925)  
 Rofo, A. H. Bol. Inst. de med. exper Para el estud. y trat. d. cáncer 2: 249-270 (1925)

Rousset, J.: Les Dyskéralinisations épithéliomateuses, Masson et Cie Paris 1931  
 Rusch, P.: Dermat. Wechschr., 83: 1450 (1926)  
 Schubert, M. Dermat. Wechschr 100: 333-337 (1935)  
 Scomazzoni T. Glor ital di dermat. e sif. 68: 1505 (1927)  
 Sequeira, J. H. Proc. Roy Soc. Med., 14 (sec. derm) 4 (1921)  
 Sequeira, J. H. and Turnbull, H. Brit. J. Dermat. 33: 173 211 (1921)  
 Szary Horowitz, and Lévy-Coblentz Bull. Soc. franç. de dermat. et syph., 39: 514 (1932)  
 Sulzberger M. B., and Sateinstein, D. L. Arch. Dermat. & Syph. 28: 798-806 (1933)  
 Sulzberger M. B.: Ein Fall von Leukoplakia et Kramosis vulvae mit Tumorbildung und histologischen Befund der Bowenischen Krankheit. Inaug. Diss., Zürich H. Haech, 1926 (Quoted by Sulzberger and Sateinstein)  
 Szathmáry B. Dermat. Wechschr 88: 117 (1929)  
 Tommasi, L.: Glor ital di dermat. e sif., 67: 925 (1926) (Abst. Arch. Dermat. & Syph. 14: 583 (1928))  
 Touraine, A. and Golt, L.: Bull. Soc. franç. de dermat. et syph. 43: 740-744 (1936)  
 Touraine A. Renault, P. and Hesse J.: Bull. Soc. franç. de dermat. et syph. 39 655 (1932)  
 Touraine A. Solente, and Renault, P. Bull. Soc. franç. de dermat. et syph. 42 339 (1935)  
 Unna, P. Jr and Delbanco E. Dermat. Ztschr 53: 658 (1928)  
 Yamamoto J. Arch. f. Dermat. u. Syph. 148. 441 (1928)  
 Yoshida, S. Acta dermat. 14 95-107 (1929) Japanese Zoon J. Acta dermat. venerol. 11: 120 (1930)

# ESTIMATE 48 000 000 CASES OF TRICHINOSIS HERE

The recent evidence from autopsies that 36 per cent of the inhabitants of Cleveland have trichinosis must not be interpreted as proof that the city is the most highly infested area in the United States, *The Journal of the American Medical Association* for March 18 says

Such evidence suggests rather that the routine diagnostic methods employed by earlier investigators are fallacious. *The Journal* points out. Routine examinations of the diaphragms of adult cadavers by the Baermann digestion method has led previous investigators to the conclusion that approximately 13.67 per cent of all persons in or around Washington, D. C. are infested with trichinae, 17.5 per cent in Minneapolis and Rochester New York 24 per cent in San Francisco and 27.6 per cent in Boston.

The editorial states that C. H. Evans M. D. of the Institute of Pathology Cleveland supplemented this routine diagnostic method by ap-

plication of a newer technic. Combining all positive data Evans found 86 positive cases of trichinosis in the first 100 Cleveland autopsies studied by his double technic.

Applying the implied correction coefficient to the percentages previously reported from other cities, the editorial says one would conclude that there are presumably the following percentages of trichina infestation in other American cities: Washington D. C. 24.6 per cent; Minneapolis and Rochester N. Y. 31.5 per cent; San Francisco 43 per cent; and Boston 49.7 per cent; an average of 37 per cent infestation of the urban population of the United States.

There is no way of course, of estimating the resulting social or economic loss but the estimated 48,000,000 cases of trichinosis in the United States are far from being a national asset.

## SULFANILAMIDE AND PNEUMONIA

The future specific treatment of pneumonia probably will be with a combination of sulfanilamide and pneumococcus serum, especially in those cases caused by Types II and III pneumococci, Alvin E. Price, M. D. and Gordon B. Myers M. D., Detroit, state in *The Journal of the*

*American Medical Association* for March 18

Although the results obtained from using the drug in the treatment of pneumonia are encouraging the two men point out, the place of sulfanilamide in the treatment of the disease is not yet definitely established.

# VACCINATION AGAINST TUBERCULOSIS

Comparative Results Obtained with Koch's Bacillen Emulsion, Calmette's B C.G. and the Caseous Vaccine of the Saranac Laboratory: Fourth Communication

HUGH M KINGHORN, M D , and MORRIS DWORSKI, B S , Saranac Lake, New York

**I**N PREVIOUS communications (1), (2), and (3), we stressed the fact that all tuberculins (including those of Robert Koch) have been a great disappointment therapeutically. Nevertheless, the old or original tuberculin of Koch in 1890 was a great discovery. Since then, that is in the past forty-eight years, there has been no generally accepted progress in vaccination against tuberculosis.

The therapeutic results of all tuberculins are pretty much the same. In composition these tuberculins have consisted of various varieties of extracts of the tubercle bacillus, or of the whole killed bacillus.

Of the many available, we regard Koch's bacillen emulsion as probably the best tuberculin. It consists of the whole tubercle bacillus in a dry, powdered state, and can be readily absorbed by the tissues without causing abscesses. Early in his work Koch discarded the whole killed tubercle bacillus because abscesses tended to develop.

Our investigations have attempted to prepare a better vaccine for the prevention and cure of tuberculosis than the tuberculins and vaccines which now exist.

One of the most dreaded conditions with which we have to deal in the treatment of pulmonary tuberculosis is cavity, chiefly because of the caseous material which it contains. This material is very toxic and may harbor large numbers of tubercle bacilli, and if it becomes disseminated into other parts of the lungs or elsewhere in the body, new acute foci may develop. We therefore do all in our power to obliterate cavity, for we know that as long as a cavity exists, it is a menace to the individual.

Microscopic examination of this caseous

material sometimes reveals no or few tubercle bacilli, and yet, if it be inoculated into a guinea pig, it will almost always produce generalized tuberculosis. Forms of tubercle bacilli are present which do not stain readily.

In the development of tuberculosis the implantation of the tubercle bacillus in the tissues is followed by the formation of an epithelioid or proliferative tubercle. If the disease progresses, coagulation necrosis begins in the center of the cellular mass, soon to be followed by caseation. If retrogression occurs, the caseous areas may become successively fibrocaseous, fibrous, and then calcified, sometimes, though less frequently, the lesion resolves, with complete disappearance of disease. If, on the other hand, the disease progresses, the caseous mass may soften and be discharged, and a cavity may result. The toxemia in tuberculosis is probably due not only to the disintegrated tubercle bacilli, but perhaps equally to the degenerated products of the destroyed cells.

The bacilli in the diseased area are constantly liberating toxins which are injurious to the host. Furthermore, the products of cellular degeneration add more toxic substances. The resulting caseation is the end product of cellular destruction in tuberculosis. It occurred to us that a vaccine consisting of caseating material containing tubercle bacilli in various stages of degeneration might prove efficacious. Such an agent might stimulate the formation of anticaseating substances. We have prepared such a vaccine and have tested it in animal experiments.

**Source and Preparation of the Vaccine**

Due to the wholehearted cooperation

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938*

of Dr E. T. Faulder, Director of the Animal Industry Bureau, Department of Agriculture and Markets, Albany, New York, and of his associates, Dr J. Woodward Claris and Dr F. E. Boyd, we were able to obtain exactly the material we wished. We take this opportunity to thank them most heartily for their interest and help.

When a tuberculous bovine is killed, the caseous material from the lungs or lymph nodes is removed under sterile conditions and immediately sent to us iced. It is kept in the ice chest and used as soon as possible as a source of the vaccine.

We have used two methods to prepare our vaccine. The first method consisted of the dried powdered caseous material. The second method consisted of the caseous material in suspension in normal salt solution. The caseous substance is usually semifluid pus, so that there is no difficulty in making a suspension of it.

All of our experiments on animals have been made with the dried powdered material. Experiments are under way to test these two methods of preparation against each other. The suspension has been used on humans, but not on animals.

#### Method of Preparing Dried Powdered Caseous Vaccine

1. The caseous material which was removed from the cow's lung or gland is spread thinly in large porcelain evaporating dishes, under sterile precautions.

2. It is then dried in a vacuum over  $H_2SO_4$  until thoroughly dehydrated.

3. The dried caseous substance is broken into small pieces and ground in a mortar.

4. The triturated material is put into a porcelain ball mill, and ground for at least two weeks for eight hours daily. A fine palpable powder results. This powder is the basis for the suspension. It is kept in the ice chest and used when necessary as follows.

Place about 1 Gm. of the powder in a mortar and grind into a smooth paste, using 5 cc.  $\frac{n}{10}$  NaOH. The hydrosol is added drop by drop. Distilled water is

then slowly added during the grinding process. The amount of water added depends on the concentration of the suspension desired. About 100 cc. of water to 1 Gm. of powder will give a suspension containing about 4 mg. per cc. It requires thirty to sixty minutes to prepare a proper mixture. The aqueous suspension is poured into a graduate and allowed to remain undisturbed for one hour. The supernatant fluid is decanted into a sterile flask. Twenty cubic centimeters are removed for total solid determination. The amount of fluid remaining is measured, and an equal quantity of glycerin is added. Ten cubic centimeter quantities of the glycerized suspension are put into test tubes, which are sealed with the aid of a blow torch.

The tubes are sterilized in a water bath at 56 C. for one hour on two successive days.

Sterility tests are made for tubercle bacilli and secondary organisms.

The amount of solid material in the suspension is determined by evaporating 10 cc. quantities of the aqueous suspension and drying to a constant weight at 110 C.

Varying doses are made by diluting the suspension with 0.85 per cent NaCl, or 0.85 NaCl in 0.25 per cent phenol.

#### Preparation of Caseous Suspension from Moist Caseous Material

We have done no experimental work on animals with caseous suspension, but have used it for the treatment of human tuberculosis. The work of C. H. Boissevain<sup>4</sup> and others has shown that the antigenic properties of tubercle bacilli are changed by dry grinding in a pebble mill. The bacilli lose their acid fastness and their power to provoke hypersensitivity to tuberculin in guinea pigs after intraperitoneal injection. This may be due to the modification of the different proteins present in the bacillus.

1. Caseous material is removed from the lung or gland of a bovine and placed in sterile Petri dishes.

2. About 30 Gm. of the moist caseous substance are placed in a sterile flask,

and 100 cc of sterile 0.85 per cent NaCl pH 7.0 are added. The mixture is gently but thoroughly shaken and placed in the ice chest for seventy-two hours. The flask is gently shaken at intervals during the day.

3 Decant supernatant fluid into another sterile flask, and pour sediment into a sterile mortar. Grind until an even paste is obtained, removing any gelatinous masses that cannot be crushed. Return paste to the decanted fluid.

4 Mix gently but thoroughly and pour 10 cc. quantities into test tubes. The flask should be shaken gently and continuously while filling the test tubes. Seal and sterilize the tubes at 56 C for one hour on two successive days.

5 Sterility tests as described above are made for tubercle bacilli and secondary organisms.

6 Determination of the solid content is made by evaporating 10 cc quantities of the suspension, and drying to a constant weight at 110 C.

Varying dosage is obtained by diluting with 0.85 per cent NaCl.

Both with the powdered vaccine and the suspension the amount of the dose is estimated in terms of solid substance.

### Preparation of Caseous Filtrate

As mentioned above, we sterilize our vaccine at 56 C on two successive days for one hour. We thus use a killed vaccine. It cannot produce tuberculosis, as the tubercle bacilli are dead. The potency of the vaccine, however, has probably been weakened by heating. We have endeavored to return to it the substances which were destroyed by heat. We do this in the belief that a living vaccine usually gives to an organism a greater protection than a killed vaccine, since the living germ keeps throwing out substances into the host which the dead germ cannot give. If, therefore, we can return these substances to the vaccine, we should have a better vaccine than that from the dead germ alone. The most likely place to get these important substances is in the caseous mass, because

here the combat between infection and resistance has occurred.

When the caseous mass reaches us we immediately divide it into two portions. One part is used to make our powdered vaccine and caseous suspension, and the other portion is utilized to obtain extracts.

To obtain these extracts we use the following procedure:

1 Place about 25 Gm of the moist caseous substance in a sterile flask and add 100 cc sterile 0.85 per cent NaCl pH 7.0. Shake gently. Place in ice chest for seventy-two hours and shake frequently but gently.

2 Decant and centrifugate the supernatant fluid for one-half hour at maximum speed (2,400 revolutions).

3 Filter supernatant fluid through two No. 5 Whatman papers, using a moderate suction.

4 The filtrate is sterilized by filtering through a Sertz bacterial filter.

5 Sterility tests are made as described above for tubercle bacilli and secondary organisms.

6 Sufficient phenol may be added to make a final dilution of 0.25 per cent phenol.

At the present time in treating humans we use this caseous filtrate with our vaccines, and think that we have probably put back into the vaccine many substances which were destroyed by heating.

### Summary of Results of Previous Experiments to Test the Value of Caseous Vaccine and Koch's Bacillen Emulsion\*

Four experiments were made, two on rabbits and two on guinea pigs. Fifty-nine rabbits and 117 guinea pigs were used. In all these experiments we obtained a very marked prolongation of life in the animals vaccinated with caseous vaccine over those vaccinated with Koch's bacillen emulsion and over the unvaccinated controls.

The prolongation of life in the animals vaccinated with Koch's bacillen emulsion over the unvaccinated controls was not

\* These experiments were given in detail in our first three publications.

nearly so striking, and did not always occur

The immunity also, as evidenced by extent of disease, was much greater in the animals vaccinated with caseous vaccine than in those treated with bacillen emulsion and in the unvaccinated controls. This immunity in one experiment (#483, Series II) appeared to be so high that 75 per cent of the animals vaccinated with caseous vaccine showed no evidence of tuberculosis, and 25 per cent had only minimal tuberculosis. The disease did not extend beyond the minimal stage in any animal. With Koch's bacillen emulsion 16 per cent of the animals showed no tuberculosis and 50 per cent advanced tuberculosis. With the unvaccinated controls 5 per cent showed no tuberculosis and 74 per cent advanced tuberculosis.

#### Comparative Results Obtained with Caseous Vaccine and Calmette's BCG\*

The experiment was divided into two parts (1) to determine what degree of immunity each vaccine produced with respect to extent of disease, and (2) to determine, if possible, in which group the immunity persisted the longest. The first part of the experiment continued for fifteen months, that is, from the time the vaccinated animals in both groups and the controls received their virulent inoculation until this part of the experiment was ended. The second part lasted one year,

that is, from the time the animals of all three groups received their second virulent inoculation until the entire experiment was terminated.

Very definite evidence of immunity as regards extent of disease was shown in this part of the experiment in Groups B (caseous vaccine) and D (Calmette's BCG) over the controls.

Group B no tuberculosis in 89 per cent—no advanced disease.

Group D no tuberculosis in 78 per cent—no advanced disease.

Group C, no tuberculosis in 10 per cent—40 per cent advanced disease.

Six animals survived in Groups B and D, and 5 rabbits in the control group.

*Part II of Experiment 579*—These three groups were reinfected 464 days after the first virulent inoculation with 25,000 bovine (BI) organisms in the left groin subcutaneously. These organisms were obtained from a twenty-one-day-old culture, glycerol broth flask.

One year later the experiment was terminated by killing all surviving animals in the three groups. The findings were as follows:

| GROUP                            | NO TUBERCULOSIS    | MINIMAL             | ADVANCED           |
|----------------------------------|--------------------|---------------------|--------------------|
| B—Caseous vaccine<br>6 Rabbits   | 1 Rabbit<br>16.66% | 4 Rabbits<br>66.66% | 1 Rabbit<br>16.66% |
| D—Calmette's B.C.G.<br>6 Rabbits | 3 Rabbits<br>50%   | 2 Rabbits<br>33.33% | 1 Rabbit<br>16.66% |
| C—Controls<br>5 Rabbits          | 1 Rabbit<br>20%    | 0                   | 4 Rabbits<br>80%   |

A minimal tuberculosis was often determined only by the microscope, and even then was frequently difficult to decide upon. If there was any doubt, it was always interpreted as tuberculous. It

\* The results of this experiment were given in detail in our third publication.

| Group  | EXTENT OF DISEASE |                      |                       |
|--|-------------------|----------------------|-----------------------|
|  | No Tuberculosis   | Minimal Tuberculosis | Advanced Tuberculosis |
| Group B—Caseous vaccine<br>9 Rabbits                                 | 8 Rabbits 88.8%   | 1 Rabbit, 11.1%      | 0                     |
| Group D—B.C.G.<br>9 Rabbits  | 7 Rabbits, 77.7%  | 2 Rabbits, 22.2%     | 0                     |
| Group C—Controls<br>10 Rabbits                                       | 1 Rabbit, 10%     | 5 Rabbits, 50%       | 4-40%                 |
| Group B gave 88.8% free of tuberculosis, 11.1% minimal, no advanced. |                   |                      |                       |
| Group D gave 77.7% free of tuberculosis, 22.2% minimal, no advanced. |                   |                      |                       |
| Group C gave 10% free of tuberculosis, 50% minimal, no advanced.     |                   |                      |                       |
| In Group B 11% of the animals were infected.                         |                   |                      |                       |
| In Group D 22% of the animals were infected.                         |                   |                      |                       |
| In Group C, 50% of the animals were infected.                        |                   |                      |                       |

usually consisted of one or a few tubercles 1 to 2 mm in diameter

The control group showed 4 out of 5 rabbits with advanced tuberculosis. Caseous vaccine and B C G had only 1 advanced in each

Caseous vaccine and B C G produced practically the same degree of immunity, and it was very striking. In the first part of the experiment, caseous vaccine obtained a slightly higher degree of immunity than B C G. In the second part it seemed as though B C G produced an immunity which lasted longer—50 per cent no tuberculosis for B C G against 16 per cent for caseous vaccine. Both had 16 per cent advanced tuberculosis, but here the disease was much more extensive in B C G than with caseous vaccine

At the outset of this communication we gave as our thesis the utilization of bovine caseous material as a vaccine to prevent the development of caseation in infected animals. The results of our work seem to indicate that our caseous vaccine decidedly limited the formation of caseation. For instance, in the rabbits of Group B (Experiment 579) which were vaccinated with caseous vaccine, only 1 animal in 15 had evidence of caseation, and this was not pronounced. This also occurred with Calmette's B C G. It also tended to prevent the development of caseation, for in the rabbits of Group D (Experiment 579) vaccinated with B C G, of 15 animals, only 1 showed advanced caseous disease. In the unvaccinated control animals of Group C of this Experiment 579, of 15 animals, 8 had advanced caseous tuberculosis

## Summary of Experiment 579—Parts I and II

### 15 Rabbits in Each Group

| GROUP      | NO TUBERCULOSIS | MINIMAL  | ADVANCED |
|------------|-----------------|----------|----------|
| B—Caseous  | 9-60%           | 5-33 33% | 1- 6 66% |
| D-B C G    | 10-66 66%       | 4-26 66% | 1- 6 66% |
| C—Controls | 2-13 33%        | 5-33 33% | 8-53 33% |

In guinea pigs also, caseous vaccine seemed to prevent the development of caseation, as shown in Experiment 483, Series II

This experiment, 579, showed that caseous vaccine and B C G are about of equal value, that both possess high immunizing properties, and that both tend to prevent the development of caseation

### Infectiousness of B C G. for Rabbits

As part of Experiment 579 we tested the infectiveness of B C G on 9 rabbits.<sup>3</sup> Although the tissues of every animal were examined both microscopically and macroscopically, the only evidence of B C G infection was a focus in the inguinal glands of 2 animals. Inoculation of guinea pigs with material from these glands failed to develop tuberculosis. Seven rabbits were entirely free of infection. We feel, therefore, that B C G does not produce a fatal infection in rabbits. With humans and guinea pigs it does not produce a progressive tuberculosis. While it does seem to produce a mild grade of tuberculous infection, as evidenced by the tuberculin reaction that humans and animals infected by it usually show, yet the infection subsides, and the humans or animals do not develop tuberculosis

The abscesses that developed in the groins of these 2 rabbits were due to the repeated large amounts of B C G that were injected

### Discussion

We have shown in five experiments with caseous vaccine, and in one with B C G, that they limit the development of tuberculosis to a marked degree. Caseous vaccine contains caseous tuberculous tissue, and heat-killed virulent bovine bacilli. B C G consists of attenuated living bovine tubercle bacilli. The question naturally arises why an attenuated living germ gives as much immunity as the killed virulent germ. There must be something elaborated by the living germ in the tissues of the host that the dead bacillus does not produce. We are endeavoring to obtain this valuable substance by extracting the unheated caseous mass, and then, after filtering the extract to render it sterile, using this filtrate with the heated caseous vaccine.

Although B C G has been given to over a million children, yet it has not been accepted and used in Great Britain and her colonies or in the United States. In these nations the preference is decidedly for a killed vaccine. The killed germ cannot produce tuberculosis. There still remains the suspicion that B C G may produce tuberculosis.

### Summary

As a result of twelve years of work with our caseous vaccine we have reached the following conclusions:

Comparing it with Koch's bacillen emulsion, we have found in every experiment much more protection with our vaccine. In one experiment with guinea pigs we obtained 75 per cent complete protection and 25 per cent minimal tuberculosis. With bacillen emulsion we obtained 10 per cent complete protection and 50 per cent advanced tuberculosis. The controls gave 5 per cent complete protection and 74 per cent advanced tuberculosis. All the control animals except 1 were infected.

Comparing the potency of our caseous vaccine with B C G, we found that both gave practically the same degree of protection. We obtained 89 per cent complete protection with rabbits, and 11 per cent minimal tuberculosis—almost 100 per cent of protection, as the minimal tuberculosis required microscopic demonstration. B C G produced about the same results namely, 78 per cent complete protection, and 22 per cent minimal tuberculosis. All the control animals except 1 were infected. 10 per cent

showed no tuberculosis, 50 per cent minimal, and 40 per cent advanced tuberculosis. Animals treated with caseous vaccine and B C G showed no advanced tuberculosis.

In this same experiment we also tried to determine which group would maintain the longest immunity. The balance seemed to be in favor of B C G over caseous vaccine.

Caseous vaccine and B C G seem to prevent the development of caseation, as only 1 animal in each group of 15 rabbits showed advanced caseous tuberculosis. In the control group, 8 animals had advanced caseous tuberculosis.

B C G does not cause a progressive tuberculosis in rabbits, although a mild local infection occurs from which they completely recover.

We regard B C G as a safe and good vaccine. While we have evidence that it does produce tubercle, yet this infection retrogresses and disappears.

Reliance should not be placed solely on any vaccine to prevent or cure tuberculosis, and if vaccines be used, the usual preventive and curative measures should be faithfully employed.

Caseous vaccine and B C G have a real value in tending to prevent tuberculosis.

### References

1. Klinghorn H. M., and Dworski M.: A Vaccine for Tuberculosis, *Tr. Nat. A. Prev. Tuberc.* 27: 250 (1931).
2. Klinghorn H. M. and Dworski, M.: A Vaccine for Tuberculosis. Second Communication, *Tr. Am. Climat. & Clin. A.* 1934.
3. Klinghorn, H. M. and Dworski M.: Vaccination Against Tuberculosis. Third Communication. *Tr. Am. Climat. & Clin. A.*, 1937-1938.
4. Botasewala, C. H.: *Am. Rev. Tuberc.* 31: 252 (1935).

### CANCER CURABLE

There now are on record 29 195 cases of cancer which have remained cured over a five year period. 63 per cent of them women. Dr. Frank E. Adair, chairman of the cancer committee of the American College of Surgeons of New York, reported at the Northeastern Regional Assembly of the Women's Field Army of the American So-

ciety for the Control of Cancer in New York.

Dr. Burton T. Simpson, Director of the State Institute of Malignant Diseases of Buffalo, added that if the list of treatments by radiation were added to the list of surgical cures the total number of cured cases now on record would be approximately 60 000.



# ANESTHESIA PROBLEMS IN SMALL COMMUNITIES

CHARLES J. WELLS, M D , Syracuse, New York

**A**NESTHESIA needs in small communities are seldom stressed or provided for. In spite of improved transportation to larger medical centers, there will always be the need of the best possible agents, methods, and skill in the prevention and relief of pain in these localities.

The most fundamental reason for the lack of proper anesthesia service in some localities is the absence or insufficiency of instruction and practical experience in medical colleges and hospitals. The practical value of such knowledge is seen in every branch of medicine in varying degrees. The laity soon discover and patronize the doctor who carries out his procedures in a painless manner. Medical colleges are becoming alive to this need, and the better hospitals feel it is more to their credit to have their intern graduates proficient in such practical things as anesthesia and analgesia, if it comes to a choice, than in some seldom-used technic. The use of nonmedical instructors for this important branch of medicine certainly does not impress the intern with its importance or dignity. The science of anesthesiology is too complicated for those not licensed to practice medicine. The medical profession should cooperate to end this excuse of expediency, and give the public as good service in this branch of the healing art as in any other. For the doctor in the small community to be obliged to gain such experience on his own private patients without proper supervision and instruction is not only embarrassing, but frequently disastrous.

The problem as it exists today is best handled by the specially trained general practitioner, who becomes a part-time anesthetist in his community. The increase in county hospitals throughout the state as well as numerous smaller hos-

pitals is affording such opportunities in increasing numbers. Properly qualified physicians should fit themselves for this need. Several medical centers and hospitals have established refresher and modernizing courses, which give special graduate instruction in any phase the part-time anesthetist may desire. Such courses should be available in every large medical center and form a part of all post-graduate programs. Systematic visits to such centers keeps the part-time anesthetist abreast of the times, and enables him to give the surgeon and the community the best possible anesthesia service. Another aid is subscription to such anesthesia periodicals as *Current Researches in Anesthesia and Analgesia*, which serves to keep the reader informed of the latest advances in the specialty. Sectional anesthesia societies, with the occasional nearby meetings of the larger congresses of anesthetists, form occasions where technical knowledge and inspiration in the specialty can be obtained. The Anesthesia Section in the New York State Medical Society should become increasingly useful, and should be regularly attended. Much good may be accomplished by papers on some phase of anesthesia of general interest before the various county and other medical societies.

The ranks of the regular full-time anesthetist in the larger medical centers must occasionally be replenished and enlarged. With slight additional training coupled with his previous practical experience, the part-time anesthetist may sooner fit himself for such a position.

Complicated surgical cases and those requiring special anesthetic technic usually gravitate to the large medical centers where specialists are available to care for their particular needs, but the many

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938*

other cases which are being handled in the smaller communities should have the benefit of the best anesthesia service possible. The part time anesthetist has proved a practical solution of this problem.

Some of the older forms of anesthesia are used to advantage. *Ether* still holds a strong position among the general anesthetics, and is the most used synergist to the various gas anesthetics. Much of its disagreeableness is due to improper administration. *Chloroform* has been discarded because of its dangerous and toxic actions. Any mixtures containing chloroform should be used sparingly and with the same technic as chloroform itself. *Ethyl chloride* carefully administered is useful in short anesthetics, as an introduction to ether anesthesia, and for local purposes.

With proper instruction, study, and practice, the part-time anesthetist may become sufficiently skilled in local, certain forms of regional, spinal, and the more modern forms of circle filter gas anesthesia. The modern portable anesthesia gas machines are easily transportable, and very efficient.

*The most important thing to emphasize in anesthesia is not the kind or method of the anesthetic, but the training, experience, and skill of the one administering the anesthetic.* Adequate background in the basic sciences, experience under sufficient supervision, and technic developed by careful repetition produce the judgment so essential to the anesthetist.

The familiarity of the anesthetist with the various gases makes them especially useful in their therapeutic application. The use of oxygen, carbon dioxide, helium, etc., for their many indications is worthy of the consideration of every anesthetist in any locality. Instruction courses in this technic are available. Many medical anesthetists are now adopting this "orphaned" specialty, which no other branch of medicine seems to want.

Some of the newer types and methods of anesthesia, in trained hands, are convenient for the anesthetist of the smaller community.

*Tribromethanol (avertin)*, if carefully administered in moderate doses, often forms a satisfactory preliminary or basal medication for almost any subsequent anesthesia. Overdose should be guarded against, and proper subsequent nursing assured before it is administered. Adequate airways should always be maintained.

*Cyclural sodium (carpal sodium)* may be used occasionally for short minor procedures by those familiar with intravenous technic, though there are few cases where other forms of anesthesia would not work as well. Inevitable precipitation in the blood stream and paralysis of respiration are real dangers, the latter especially in cases of liver insufficiency. It is wise, however, to have it handy for immediate injection where there is a possibility of cocaine poisoning.

*Divinyl ether (vinethene)* is a recently developed anesthetic, which readily lends itself to the use of the part time anesthetist. It is quite powerful, induces anesthesia rapidly, and is followed by quick recovery. It is excellent for short anesthetics requiring deep relaxation, and forms an excellent induction for ether anesthesia. It is highly recommended for obstetric use. It is best given by the open drop method in a closed circle filter, or may be used for dental procedures by forcing its vapor through a nasal catheter.

In many communities the part-time anesthetist has solved the problem of anesthesia needs. For those not properly prepared by previous training in medical colleges and hospitals, refresher and post graduate courses are recommended. The best work of the surgeon, as well as the welfare of the public of the small community depend upon the best possible prevention and relief from pain.

# THE DIAGNOSIS AND MANAGEMENT OF SUBACUTE BLOOD STREAM INFECTIONS OF THE KIDNEY

HUGH CABOT, M D (*Division of Surgery, The Mayo Clinic, Rochester, Minnesota*)

THOMAS R MONTGOMERY, M D (*Fellow in Urology, The Mayo Foundation*)

AT THE outset we should perhaps indicate that we regard most of the blood stream infections of the kidney as properly classified as subacute. There is a small group of cases which are very acute, almost explosive in character, and in which the diagnosis is likely to be confused with that of an acute abdominal emergency. Most of the remaining cases, while they may show acute symptoms at the onset, are likely to drag along into an almost chronic stage. For instance, it is by no means uncommon to see a proved blood stream infection of the kidney that has ultimately resulted in massive abscesses and perinephritic abscesses going on over a period of many months. We also use the word subacute to indicate that, except for the group above specified, which has an explosive character, very few of these cases require emergency treatment and probably only a moiety of them will require operative treatment at all. We realize that this is quite different from the view that has been commonly held in the past in regard to the lesion here described. We think this difference of point of view is largely due to the fact that at that time only a small proportion of the cases were correctly diagnosed and the opinion was very widely held that, given a blood stream infection in which the kidney might be expected to be studded with small abscesses, nothing short of removal of the kidney would cure. Since that time we have come a long way and are well aware that lesions of this type frequently, perhaps generally, heal without surgical assistance. The two complicating conditions which regularly require surgical measures are (1) massive abscesses, whose recog-

nition we think has been confused rather than assisted by the term carbuncle, and (2) perinephritic abscess, which is much more frequent.

## Diagnosis

The fact of the matter is that correct diagnosis in this condition is much less common than we should like to have it, largely because the lesion has no characteristic symptoms that it is likely to be confused with a variety of other conditions associated with more or less maintained fever, and that there is nothing to draw attention sharply to infection of the urinary tract. Too much have we become accustomed to regard infections of the urinary tract as synonymous with the appearance of pus in the urine. As a working rule this is true only for those cases in which the infection is of the so-called ascending type or when it is associated with an obstructing lesion of the kidney. At an earlier day, when typhoid fever was very common, when the Widal reaction was not available or was in its infancy, many of these cases were diagnosed and forsooth treated for typhoid fever, sometimes, it must be admitted, with better results than attached to the somewhat later period when typhoid could be excluded, a lesion of the kidney was suspected and, in our enthusiasm, we were likely to remove a considerable number of perfectly useful kidneys. Today the diagnosis of a blood stream infection of the kidney can be accurately made in the vast majority of cases if we have the luck to think of it. In a large number of cases there is a significant history of infection elsewhere in the body. On the other hand, we have

*Read by invitation at the Annual Meeting of the Medical Society of the State of New York, New York City, May 10, 1938*

been interested to note, in going over the records of The Mayo Clinic, that such a history, though perfectly clear, was very commonly overlooked until somebody thought of the lesion and then thought to inquire of the patient whether he had had a previous peripheral infection of the furuncle, carbuncle, or infected wound type that he had often entirely forgotten to mention. In our experience it is possible to obtain unquestioned evidence of peripheral infection in something like 60 per cent of the cases. In another 20 per cent the site of origin appears to have been a recent acute infection of the upper respiratory passages, and there is a balance in which the point of origin is wholly obscure.

### Symptoms

As already pointed out, the symptoms commonly associated with these lesions do not particularly suggest them. Pain is present in the great majority of cases but frequently occurs over the lower ribs, may often be associated with a chill, may last a few days, and is often confused with some infection of the lung. Fever is almost invariably present but again is not characteristic. Chills are common but, taken in connection with the pain that the patient often refers to in the chest, they are more likely to lead to an unconfirmed diagnosis of pneumonia than to suggest a renal origin. Leukocytosis of a relatively high grade is the rule rather than the exception but again such a leukocytosis would be expected in various types of pneumonia and, except for typhoid fever which is now a rare source of confusion, is not helpful.

### Physical Examination

Here again the findings are often inconclusive or misleading. A handsome number of our recent cases have had symptoms early in the disease that led to a tentative diagnosis of pneumonia. Where the condition is not associated with chills, the diagnosis of flu—whatever that may mean—is unfortunately common. Physical examination of the chest may often give vague dullness over

the base of one lung and even occasional rales, particularly in the early days. The examination of the abdomen in the early stages, except in the explosive type, is generally negative. The urine is habitually normal. Thus, there is nothing to attract our attention to the site of the disease. It is true that careful and rather skillful examination for costo-muscular tenderness will show it in practically all cases but it is readily overlooked and the practice of punching patients in the back, more politely referred to as lumbar percussion, is more likely to be misleading than helpful. The greatest probability of successful diagnosis will come about when we persuade ourselves to include blood stream infections of the kidney as a possibility in all cases of what the British Army used to call "Pyrexia of Unknown Origin (P.U.O.)". If, when we are at a loss for a diagnosis in a patient whose chief symptom is fever with a largely negative physical examination, we will take the trouble to carry out certain careful studies, a correct diagnosis can almost invariably be arrived at. These methods may be arranged in order as follows:

- 1 In the early days of the disease, commonly the first four or five days but occasionally for many days, staphylococci can almost invariably be found in the urine if it be skillfully studied by centrifuge, for not less than half an hour at high speed, and smear. For years the observation has been common that the cocci thus found were peculiarly likely to refuse to respond to the guiles of the bacteriologist. In something like half of our cases, the smear of the centrifuged urine shows many organisms. The culture, carried out by experts, is negative. This may be due to the fact that precisely the right culture medium is not selected or, as suggested years ago by the late James H. Wright, that these organisms have been damaged in their stormy passage through the kidney and grow feebly, if at all.

- 2 We suggest for your consideration the possibility that the intravenous urogram may be of service at this period quite be-

yond what is ordinarily supposed. The evidence for which we should look is not that of deformity, which will not have developed at this time, but of diminished, irregular, or occasionally absent excretion on that side. We do not think that there is yet a sufficient body of evidence to warrant us in positive statements upon this point but we note, in a review of our cases, that variations in excretion, which might be interpreted as abnormal, are very common.

3. In a relatively early stage this lesion often gives rise to perinephritis. Perinephritis operates to limit the normal mobility of one kidney as compared with its fellow on the opposite side. This diminution or even failure of mobility can be demonstrated at the time when intravenous urography is employed by films taken with the patient almost literally standing on his head, in the horizontal position, and finally in the vertical position. Generally speaking, the normal kidney should have a mobility roughly equal to the vertical diameter of his lumbar vertebra.

### Diagnostic Methods of Value in the Later Stages

In patients who are seen, as many of them are, from three weeks to six months after the initial symptoms, the following methods of diagnosis will be of great interest and value.

1. Obliteration of the psoas shadow and scoliosis with the convexity away from the involved side. This, of course, is suggestive not of a lesion of the kidney itself but of perinephritic suppuration.

2. The position of the kidney as shown by the intravenous urogram will not infrequently be altered again by the development of perinephritic suppuration. It may be pushed inward, outward, or downward, and occasionally, though rarely, upward. At this stage the test for lack of mobility will be almost invariably positive.

### The Retrograde Pyelogram

It is at this stage, after the lapse of a few or many weeks, that the retrograde

pyelogram is at its best. It will regularly show massive abscess, if present. It will frequently show abnormality of a single calix. It may show complete obliteration of a calix either by massive abscess that is still shut off from the pelvis, or, as is not sufficiently recognized, by the compression of a calix by an encapsulated perinephritic abscess most common in our experience at the upper pole.

### Illustrative Cases

We append now a series of recent cases in practically all of which the diagnosis had been long overdue and in which it could, we believe, have been satisfactorily made at a much earlier period if the possibility of the lesion had been entertained.

*Case 1*—A married woman of 39 registered at the clinic August 4, 1937. She came on account of recently developed hoarseness which proved to be due to a growth on the left vocal chord. Her general physical condition was excellent. Urine was normal. On August 7 she was operated upon by thyrotomy, the left vocal chord was removed, and a temporary tracheotomy done. Convalescence from this operation was smooth and satisfactory though with the slight amount of wound infection which is inevitable. Her fever, however, was never above 101 F and the temperature reached normal on the seventh day. On the eighteenth day she had an attack of pain in the right side and back. Examination at this time showed a palpable, apparently enlarged right kidney with marked costovertebral tenderness. The urine was normal in all respects. The hemoglobin was 72 per cent and the leukocyte count, 9,700. Her fever continued to rise and reached 104 F with a chill on the twentieth day, this was repeated on the twenty-second day, after which the temperature fell to normal on the twenty-third only to rise again on the twenty-fifth and reach 105 F on the twenty-seventh. At this time the leukocyte count was 9,200 and 9,800. The fever slowly declined and the temperature reached normal on the thirty-third day. During this period there was continued tenderness over the kidney. The urine was continuously normal except for the presence, in a centrifuged specimen, of many cocci. An intravenous urogram done on the eighteenth day after operation showed a normal excretion on the left with incomplete filling on the right that was in



FIG 1a



FIG 1b

marked contrast (Fig. 1a). It was noted that the shadow of the psoas muscle was clear on both sides. An attempt was made to catheterize the ureter on the twenty-second day but this failed through coiling of the catheter. The ureter was, however, satisfactorily catheterized on the twenty-seventh day just at the time of the second rise of temperature. Urine obtained from this kidney was normal and there was no evidence of obstruction. On the thirty-fourth day a retrograde pyelogram was done that showed a normal pelvis but with some possible irregularity in the middle and lower calices. At this time Gram positive cocci were obtained from the bladder. From this point she made a normal convalescence and was dismissed.

She returned on December 9 at which time the urine, though still normal, contained Gram negative cocci. An intravenous urogram taken at this time showed much better filling than three and one-half months previously and was probably within normal limits. (Fig. 1b)

It seems quite clear that this patient had an acute blood stream infection of the right kidney coming on as a complication of operation upon the larynx. This did not result in any marked perinephritis or perinephritic abscess. The pyelograms, both intravenous and retrograde, clearly demonstrated the absence

of massive abscess. As a result there was no indication for operation at any time.

*Case 2*—An unmarried woman of 22 registered August 23 1937. Two months before, she had had an attack of pain over the left lower chest. Cough was painful but unproductive. A diagnosis of pneumonia was made. She went back to work after two weeks but had not felt up to par and about August 1 began to have more pain in the left upper quadrant radiating into the back. This was followed by several chills.

On admission, physical examination was generally negative except for fever of 101.6 F and a pulse rate of 120. Examination of the chest showed dullness to percussion over the left lower lobe. Abdominal examination showed slight tenderness in the left upper quadrant. Examination of the urine on August 25 and on several subsequent occasions was persistently negative. Blood urea was 36. Examination of the blood disclosed moderate secondary anemia, an erythrocyte count of 3 670 000, a leukocyte count of 21,500 and 85 per cent of neutrophils. X-ray of chest was negative. A scout plate of the KUB tract was negative except for some scoliosis and rotation of dorsal and lumbar spine. X-ray of colon showed a filling defect in the dome of the splenic flexure, probably due to outside pressure. An intravenous urogram on August 26

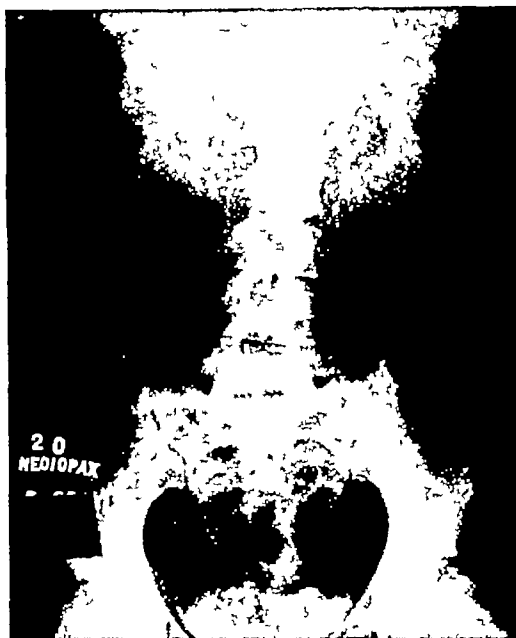


FIG 2

showed that the right kidney pelvis was not very well outlined but apparently normal, on the left side it showed some flattening of the middle and lower calyces (Fig 2). Two days later a retrograde pyelogram showed slight clubbing of the upper and lower calyces and slight dilatation of the ureter, the outline of the psoas muscle was a little vague on the right side. During the nine days in the hospital before operation she continued to have an irregular fever, the temperature varying from normal to 103 F. Experts differed in regard to the diagnosis, the urologist taking the view that there was no evidence of perinephritic abscess, while the internist believed that it was present. On September 2, ten days after admission, the left kidney region was explored and a large perinephritic abscess was found on the anterior and superior aspects of the kidney. Cultures from the pus showed *Staphylococcus aureus*. From this operation she made an uneventful convalescence.

This case illustrates the possibility of confusion between pneumonia and acute blood stream infections of the kidney. In view of the finding, we think there can be no doubt that she had a blood stream infection of the kidney some two months previous to her admission. This resulted in a perinephritic abscess that developed slowly but was of consider-

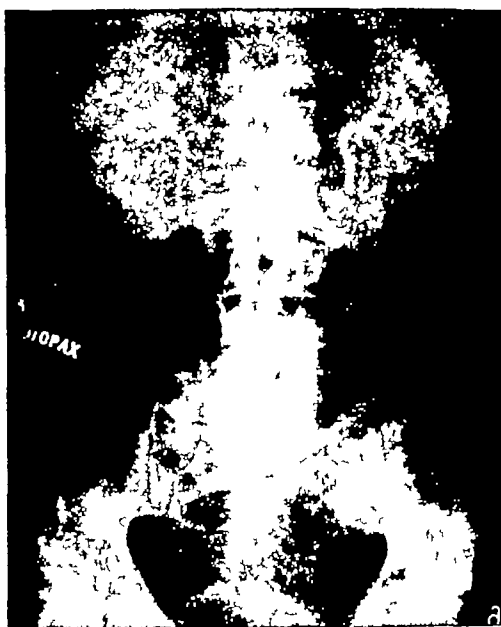


FIG 3a

able size before the diagnosis was satisfactorily made.

**Case 3**—A man of 57 registered June 30, 1937. His wife had noticed that he had been slowly losing strength since Christmas and had had an irregular fever certainly during the last three weeks. He had been in bed for five weeks. His only complaint was pain in the abdomen, generally referred to the right lower quadrant, and he tended to relate it to the condition of his bowels. He had lost 30 pounds in the last six months, he weighed 117 pounds when he was admitted to the clinic.

Physical examination was negative except as below described. Heart and lungs were normal. Abdomen showed marked loss of weight with a mass in the epigastrium which was slightly tender, a sensitive area was present over the twelfth rib posteriorly. He was sent at once to the hospital. On July 1 and on many subsequent occasions the urine was always within normal limits. Blood urea was 28. His hemoglobin was about 60 per cent, the erythrocyte count was 3,800,000, the leukocyte count was 10,800, and the percentage of neutrophils was 80. Sedimentation rate was 90. X-ray of the chest was negative as was the study of the large intestine and terminal ileum. On July 2 an intravenous urogram showed that the left kidney was well visualized in five minutes and normal in all respects, in the right kidney the lower



FIG 3a



FIG 3c

calix was not well outlined but the upper calix was normal (Fig 3a and 3b). On July 8 a retrograde pyelogram of the right kidney showed slight dilatation of the calices but was otherwise normal. It was noted that the psoas muscle was obscured on the right side (Fig 3c). On this evidence of a kidney with possibly abnormal secretion but without evidence of massive abscess and absence of the psoas shadow on the right, a diagnosis of perinephritic abscess was made and drainage done on July 9. By this time the evidence of suppuration was clear as there was edema of the subcutaneous tissues and the abscess was found directly beneath the muscles. The cavity lay external to the kidney and extended downward for some distance below the lower pole. It was judged to contain about 150 cc. of pus. The abscess was drained with a rubber tube and convalescence was completely uneventful.

In this case the importance of the evidence obtained by the intravenous urogram and retrograde pyelogram is considerable as showing that, even with the long duration, there was no clear evidence of massive abscess of the kidney though the behavior of the kidney showed abnormal secretion except in the upper pole. The absence of normal psoas shadow made the diagnosis of

perinephritic abscess practically certain. Under these circumstances, there was no indication for exploring the kidney.

*Case 4*—A man of 34 registered at the clinic September 16 1937. On July 10 he had had a chill fever and had felt weak and tired. Several days later he discovered that he had a fever with a little cough. He went to another hospital on July 17 and remained for two weeks. He was told that he had pneumonia. Three weeks before coming to the clinic he had another chill which was followed by a temperature of 103 F. A little cough occurred at this time. He returned to the hospital where he remained until coming here. At the time he came to the clinic he had a dull pain in the right upper quadrant that was made worse by deep breathing. He has had slight dyspnea with moderate unproductive cough. Of late he has had nightly sweats.

Examination showed a flushed sick looking man. The heart was negative except for tachycardia. An area of dullness was observed at the base of the right lung which extended downward from the lower part of the scapula; no breath sounds were heard and tactile fremitus was absent or diminished over this area. The left lung was clear. The patient was sent directly to the hospital. The urine was normal on several occasions. Blood urea was 32. The blood showed moderate secondary anemia.





FIG 4a



FIG 4b

the leukocyte count varied from 17,700 to 19,900. X-ray of the chest showed elevation of the diaphragm on the right. The lungs were clear. A scout plate of the KUB tract was interpreted as negative. The medical consultant felt a mass in the upper right quadrant, which he thought was an enlarged kidney. An x-ray on September 20 showed that the psoas shadow was absent on the right but well marked on the left (Fig 4a). Intravenous urogram showed outline of a large right kidney, excretion on the left was normal in all respects, on the right side the renal pelvis and kidney were displaced laterally and there was poor visualization of calices. Three days later a retrograde pyelogram showed that the calices were essentially normal and that the kidney was displaced laterally. A diagnosis was made of right perinephritic abscess surrounding the upper pole (Fig 4b). At this time a history of "boils" previous to the onset of the disease was first obtained. During the first week, while examinations were being made, he had a fever varying from 100 to 104 F. On September 23, operation revealed a perinephritic abscess, as above suggested, with some apparent destruction of the renal cortex. Bacteriologic examination disclosed *Staphylococcus aureus*. Following operation his temperature was less high and returned to normal on the eighth day, though there was a slight rise on the eighteenth and nineteenth days. Previous to his dismissal on October 30 another intravenous urogram was

done. This showed continued absence of the psoas shadow on the right, excretion of the medium of normal amount, but with some failure of visualization of the middle calix (Fig 4c). The kidney was still displaced downward. The left kidney was normal in all respects.

This patient again illustrates the ease with which a blood stream infection of the kidney may be confused with pneumonia. It also shows the accuracy with which prediction of the nature of the condition and its position can be made.

*Case 5*—A man of 61 registered December 21, 1937. On the previous August 25, while driving his car, he had felt a sudden sharp pain over the lower portion of the left chest. This lasted but a few minutes but after it subsided he did not feel well. The next day he had a chill lasting forty-five minutes. Three days later he had further chills and pain developed in the upper quadrant of the abdomen, the pain persisted. Chills, however, did not return until the middle of December. There was no disturbance of the urinary tract. He had lost 10 pounds. There was persistent pain in the left upper quadrant.

Examination showed recent loss of weight. The heart was slightly enlarged. The lungs were negative. Abdominal examination was negative, but tenderness and muscle spasm were present in the left flank. The urine was normal.



FIG 4c



FIG 5a

The blood urea was 48. Examination of the blood disclosed slight secondary anemia, an erythrocyte count of 4,200,000, a leukocyte count of 12,800 and 89.5 per cent neutrophils. X-ray of chest showed old interlobar pleural thickening at the level of the fifth rib anteriorly on the right. A scout plate of the KUB tract was negative except for increased density over the lower portion of the sacrum. Intravenous urogram on December 24 showed scoliosis, with convexity to the right; neither psoas shadow was well visualized. Excretory urogram showed that the right kidney was normal but that the left kidney was pushed medially; the pelvis was within normal limits and the calices were fractionally outlined (Fig. 5a). Left retrograde pyelogram was normal except for displacement of kidney medially (Fig. 5b). On this evidence a diagnosis of perinephritic abscess without massive abscess of the kidney was made and operation done on December 24. A large perinephritic abscess was found and drained. Operation was followed by a chill. On the second day there was evidence of marked wound infection and drainage from the wound had a fecal odor. On the third day he had frequent desire to empty his bowels but without success. He went into collapse and died quite suddenly at midday with a subnormal temperature. Autopsy refused.

Thus case again shows the danger of confusion between a blood stream in



FIG 5b

fection of the kidney and some type of pneumonia.

It will be noted that all of this group of cases occurred during the second half of the year 1937 and are, therefore, recent. They were selected only in the sense that

they presented problems of some difficulty and were, therefore, carefully studied. A much larger group could have been used.

1 Case 1 is chiefly interesting as illustrating the possibility of blood stream infections of the kidney occurring during convalescence from some surgical operation and, we think, particularly in relation to operations upon the mouth and throat. This patient showed, during her convalescence, unexplained fever that could not be accounted for by the wholly satisfactory condition of her operative wound. Careful study demonstrated the nature of the lesion, the fact that it did not require surgical treatment, and that complete recovery would take place.

2 The other cases rather strikingly illustrate the common mimicry by blood stream infections of the kidney of a lesion of the lung. This is today perhaps the most common source of confusion. Fortunately we are now able to be very accurate in our diagnosis of pulmonary lesions by the use of x-ray films. These cases strongly suggest the importance of carefully entertaining the possibility of a blood stream infection of the kidney when the lung fields are found to be within normal limits though the clinical signs have suggested pneumonia.

3 These cases interestingly illustrate the slow development of perinephritic abscess and the tremendous waste of time which is commonly involved in their treatment. It is quite safe to say that in every one of the last 4 cases the diagnosis could have been made at a much earlier period if the patient had consulted a physician and if the lesion had been thought of.

4 These cases illustrate the possibility, by the use of the retrograde pyelogram, of excluding the presence of massive abscess of the kidney in the presence of perinephritic abscess. Where massive abscess can be excluded, then drainage of the perinephritic abscess should lead to recovery. Where massive abscess is present with perinephritic abscess, then some treatment of the

kidney itself, even its secondary removal, may be necessary.

5 We want to raise the question, which we think is as yet unanswerable from the evidence, of whether or not blood stream infections of the kidney, during their active stage and during the presence of perinephritic abscess, unfavorably affect the excretion of the substances used for intravenous urography. We have a small series of cases in which excretion was practically absent or very slight in a kidney which turned out to be substantially normal after drainage of a perinephritic abscess. The cases here reported suggest that excretion of these substances has been interfered with but not sufficiently to make the appearances of clearly diagnostic value in the present state of our knowledge.

### Treatment

We do not propose to take up your time with any elaborate discussion of the problems of treatment. We do, however, want to voice again our complete conviction that these patients rarely, if ever, present a condition authorizing early exploration or removal of the kidney. Too much have we overlooked two important factors. (1) The on-the-whole large probability that lesions produced by the staphylococcus will heal of their own will and accord if given a decent opportunity, and (2) that the kidney has an unusual ability, perchance due to its large blood supply, ultimately to overcome extensive suppuration unassisted by the violence which we euphemistically call surgery. The criteria which should influence us to undertake operation are, broadly speaking, two.

1 Evidence that the patient is not showing ability to stand off the disease. This evidence will frequently consist in the development of a slowly progressive anemia, in loss of weight, loss of appetite, frequent occurrence of chills, or a maintained fever. Much reliance may be placed upon the pulse rate. If this rules within normal limits, we may, as a rule, hold our hand. If it shows a slowly progressive tendency to rise, it is strong

evidence that the patient is losing ground and requires our assistance

2 The development of evidence of perinephritic abscess One of us (H C) has voiced, elsewhere on several occasions, the conviction that perinephritic abscess is almost invariably the result of a blood stream infection of the kidney resulting in a cortical lesion, often in itself of no great moment, but which, breaking through the capsule and finding itself loose in the perinephritic fat, will continue to develop quite without symptoms though almost always with fever It is a striking fact that, though the onset of the kidney infection may be properly characterized as acute, this acute phase disappears giving place to a prolonged pyrexia with practically nothing to show for it Abscesses of literally enormous dimensions may develop without making themselves apparent on physical examination Perinephritic abscess probably always requires drainage. I modify this statement from the absolute which I should have used two years ago because I have seen with my own eyes 2 patients, 1 of my own and 1 which I saw in consultation with a colleague in Great Britain, in whom all of the evidence of a healed perinephritic suppuration of large extent, namely scar tissue of recent origin, and inspissated pus were found The patient in both cases, however, had succeeded in conquering his lesion before we had made up our minds in regard to the diagnosis.

### Discussion

Dr Leo E. Gibson, *Syracuse*—Dr Cabot has given us some very important points in his discussion of this interesting clinical group The majority of discussions involve a variety of terminology and views concerning the diagnosis and management There are those who claim that it is an easy diagnosis as well as those who consider it a difficult diagnosis The treatment has enjoyed a similar state of confusion Masterful inactivity is adhered to by some while early surgery is equally well supported

No generally accepted classification has been applied to this group of infection. They have been reported and discussed in the medical literature under a wide variety of names some

articles listing as many as fifteen different terms The infrequent occurrence of the very acute fulminating type demanding emergency nephrectomy for relief in my series of cases leads me to believe that more emphasis is placed on it than is indicated It is usually part of a general overwhelming sepsis and both kidneys as well as the lungs and other organs may be involved In sharp contrast to this type there is a mild group characterized by pain fever and tenderness of short duration. In this group cocci may be found in the centrifuged urine as described by Dr Cabot. These cases may belong to the group described as diffuse staphylococci nephritis and are probably often undiagnosed The patients recover without operation I believe this group is the one which Dr Cabot refers to more particularly Between these two groups occurs the single abscess in the cortex, multiple abscesses and the carbuncle. This last term I think is confusing In my experience these types require some sort of surgery for relief because they usually are followed by perinephritic infection

The diagnosis is difficult in some cases such as the single abscess in which the pain and tenderness are less than in the carbuncle. If the surgeon thinks of a blood stream infection of the kidney as a cause of long-continued pyrexia he may be inspired to dig out a history of a focal infection or abrasion as a result of which only a scar remains the whole process having been entirely forgotten by the patient. This history should suggest the application of all the methods of diagnosis so ably described by Dr Cabot All of these signs may not be positive but enough will be learned to direct attention definitely to the kidney area. To know just when a coccus kidney has become a perinephritic abscess unless the case is an advanced one, I believe is quite impossible

To emphasize the confusion in diagnosis and the vagaries in the clinical picture described by Dr Cabot I shall briefly mention 3 cases

A male aged 41 years with a complaint of cough duration six months, pain in upper right quadrant of the abdomen radiating across to the left. Three months before he was told he was suffering from pulmonary tuberculosis and was sent to a sanatorium for treatment He was x-rayed and finally sent home without a diagnosis On admission the temperature was 104.8 F and there was a leukocytosis of 18,000 On examination there was no pain or tenderness in the abdomen or costovertebral angle. Due to the presence of pus cells in the urine I was asked to cystoscope him The study revealed infection and decreased function of the right kidney

The urine showed a staphylococcus. An intravenous pyelogram showed decreased function and absence of the upper calix, which was confirmed by retrograde pyelogram. At operation a massive perinephritic abscess was drained. The patient recovered after a hospitalization of three months.

In this patient the condition was confused with tuberculosis. There was a prolonged chronic illness with no physical findings. Marked pressure in the costovertebral angle and abdomen produced no pain.

A female, aged 48 years, ill four weeks, two of which she spent in her bed. The complaint was left lumbar pain, worse on deep inspiration. There were slight chills with elevation of temperature to 102 F. The leukocytosis was 14,000. No history of previous infection could be elicited. The blood cultures and urine were negative. On examination there was tenderness over the left kidney. Cystoscopy and pyelography were negative. The x-ray did reveal a scoliosis away from the left side. A diagnosis of cortical renal abscess was made. Two days after admission the temperature became normal, the pain and tenderness disappeared, and the patient refused surgery. Twelve days later all the symptoms and signs returned, more severe than before. At operation a large perinephritic abscess was drained that did not heal completely for three months.

This patient was relieved of all subjective and objective symptoms when the cortical abscess drained spontaneously into the perineal space, all of which recurred upon the development of

a large perinephritic abscess. This patient, undoubtedly, would have been spared the discomfort of a perinephritic abscess and a long convalescent period involving many weeks of drainage from the incision if an early operation had been submitted to.

Entirely different is the case of a young male, aged 27 years, who three weeks following an infected laceration of the hand had a temperature of 102 F and pain in the right costovertebral angle. The wound on the hand had entirely healed and only a scar remained. There was a leukocytosis of 8,300. The pyelogram was normal, as well as the renal function. The urine showed a staphylococcus. There was a curvature of the spine away from the right side. At operation a single cortical abscess the size of a five-cent piece was found and drained. He was completely healed and well fifteen days after operation. From the character and position of this abscess I am sure that a perinephritic abscess with all its extensive morbidity and possible kidney damage would have resulted.

We all wish to be conservative in dealing with this infection. The problem is one of early and correct diagnosis. There are two questions which occur to me. Having made a diagnosis of blood stream infection of the kidney, are we able to tell how extensive it is, except when there is pelvic deformity? By delaying drainage until there is a rapid pulse, anemia, and signs of sepsis are we not permitting more extensive kidney destruction? We certainly invite the formation of a perinephritic abscess with all its complications.

---

## HOW CAME THE STETHOSCOPE?

René Theophile Hyacinthe Laennec, medical pioneer, was inspired to experiment by watching some children at play in the Louvre gardens. They were testing the sound of their voices on a hollow piece of wood. So he made a tube of

rolled glued paper and applied it to the bare chest. That was the beginning of the stethoscope which, from the Greek derivation, means "chest" and "to observe" or "regard."

—Sedgwick Co (Kans.) *Medical Bulletin*

---

A total of 313,953 working days was lost in Ohio industries during 1937 as a result of 44,876 eye injuries, according to the annual report issued by the Industrial Commission of Ohio. One able-bodied laborer, working six days a week, would have to work over 1,000 years to accomplish the work that was lost through such injuries—many of which could have been prevented!—*Sight Saving Review*

The annual meeting of the American Laryngological, Rhinological and Otological Society, Inc. will be held at the Drake Hotel, Chicago, May 9, 10, and 11. The scientific program is distinctly practical, including symposia on the care of the patient following operations for sepsis of otitic origin, care of mastoid wounds, final results in operations for chronic suppurative paranasal sinusitis, and voice defects.

# THE PATCH TEST

## An Evaluation of Its Possible Dangers

PAUL E. BECHET, M D, New York City

**A**LLEERGY in its relation to the skin is a comparatively recent contribution to the progress of medicine. Most of the investigative work accomplished to date has originated within the past ten years. Certain principles that govern youth, whether in men or manners, or accomplishment, are also true of allergy in its relation to dermatology. It is wobbly, and rather uncertain in its gait. Its proponents are self-contradictory and it presents a maze of theory couched in a technical language, which is difficult for the practical man to understand. We are told that a positive reaction to skin tests does not always mean that the substance causing the positive reaction is also the cause of the pre-existing dermatitis, nor does a negative test mean that the existing dermatitis is not caused by the substance showing negative findings. There is the bugbear of polyvalent sensitization to be accounted for. A quibbling matter, but nevertheless an irritating one, is the rather frequent reference by the allergist to "allergic dermatitis." I believe it was the late Dr. Walter Highman who correctly stated that it was the individual who was allergic, and not the dermatitis.

The allergist has another common fault of youth. I have not infrequently observed that in the presence of a severe, universal eczematoid dermatitis all treatment is directed to the allergic side, and little or nothing is done to relieve the patient. This is important, for we know that even in the instances in which a substance is definitely proved as the etiologic factor of the dermatitis, elimination of that factor does not immediately result in the amelioration of the symptoms, and that an appropriate topical application can prove of great benefit in accelerating

recovery. In the pre allergy days, some thirty years ago, patients suffering from what was then called eczema, and which we now recognize as dermatoses caused by hypersensitivity, were not infrequently cured with a combination of diet, internal and local treatment, and without any inkling whatsoever of anaphylaxis. However there is no question of a doubt that due entirely to the efforts of dermatologists, allergy in relation to the skin has proved itself the greatest advance made in our field in half a century, and I venture to prophesy that in the light of future knowledge it will revolutionize the etiologic facts of the eczematoid dermatitides, greatly diminish the incidence of contact dermatitis, and sweep away the present discrepancies, which, after all, are more apparent than real. The etiology of eczematoid dermatitis will be found to be entirely due to hypersensitivity, by either endogenous or exogenous substances, which will be definitely determined by skin tests. Much of the groundwork has already been done, and the distinct advance already made can be compared favorably with the emergence of dermatology from the benighted era of the darts and diatheses of the earlier half of the nineteenth century.

The patch test was first introduced by that master in modern dermatology, Joseph Jadassohn.<sup>1</sup> In 1895 he reported the observation of a generalized eczematous mercurial dermatitis following the injection of a mercurial compound. The entire surface of the skin was covered by the eruption with the exception of one area which was entirely free. On investigation it was found that on the area free from eruption a mercurial plaster had been applied some time previously. The observance of this phenomenon led Jadas-

*Read at the Annual Meeting of the Medical Society of the State of New York New York City  
May 10 1938*

sohn to experiment by applying substances to the surface of the skin without scratch or injection and by this simple method he succeeded in getting positive reactions in sensitized individuals. Thus was born the patch or contact test. Bruno Bloch<sup>2</sup> of Zurich, a colleague of Jadassohn, greatly developed our knowledge of the test and its workings in a masterly paper read at the Fifty-First Meeting of the American Dermatological Association, Washington, D C, April 29, 1928. To him belongs the credit of elaborating and furthering the work of Jadassohn on the subject. In this paper, Bloch for the first time calls attention to the possibility of inducing sensitivity in a normal unsensitized person by means of repeated patch tests.

Arthur J Markley<sup>3</sup> may be credited as being first in introducing the contact test in the United States, and also the first to prove experimentally in this country that a patch test can be negative in areas not affected by the dermatitis, while at the same time be positive on healed areas of the old pre-existing eczematoid dermatitis. He proved this conclusively in his celebrated case of "guinea-pig dermatitis." It is interesting to note that this epochal paper, read in 1920, apparently elicited no discussion. Sulzberger and Wise,<sup>4</sup> in a paper read before the Section of Dermatology and Syphilology of the American Medical Association in 1930, renewed interest in the test and had much to do with popularizing it in America. The contact, patch, or percutaneous test is now extremely popular, and, among the uninitiated, perhaps too much so. It is unfortunately so simple that it can be done by anyone, but it cannot be interpreted intelligently by everyone. Its great value is incontestable, but it is not an open road to easy etiologic findings. There are numerous pitfalls easily avoided, only by the expert dermatologic immunologist.

Bray<sup>5</sup> makes the following statement in his textbook: "Deaths have been recorded following skin testing from the intradermal injection of Le Page's glue (Cooke, 1922) horse serum (Lamson,

1924), egg (Baagoe, 1928), and buckwheat (Lamson 1929). No fatal result has, of course, been recorded from patch testing. The worse that we can expect are flare-ups on the sites of the pre-existing dermatitis at times sufficiently severe as to become widespread, or the incidence of a universal eczematoid dermatitis a few days after its appearance on the site of the patch test, or, as in the case of arsphenamine, a tremendous increase in the pre-existing arsenical dermatitis or the sensitization of the patient himself to the arsphenamines, with possible serious consequences following future injections of the drug. That these untoward occurrences are extremely rare is attested by the fact that they are apparently not recorded in the *Journal of Allergy* from its first number in November, 1929, to date, the only exception being a reference to a single case by Schwartz and Peck, quoted by M Golnick in the September number for 1936. Rostenberg and Sulzberger<sup>6</sup> in 1936 reported patch testing 998 persons, 10,189 times with about 500 different substances, and do not mention any untoward results. Doctor Louis Schwartz of the United States Department of Public Health who has had a large experience with the patch test in industrial dermatoses stated in a personal communication that he had observed a few cases which showed a generalized dermatitis following a patch test, but that they were exceedingly rare. On the other hand, there is scattered evidence in the literature that hypersensitivity in an individual can be increased by the patch test to such an extent that a mild pre-existing dermatitis can become severe and widespread, or hypersensitivity can be induced by the patch test in a normal individual. This evidence begins with the observations of that remarkably clear thinker, Bruno Bloch, on primrose dermatitis. Bloch not previously affected by contact with *Primula obeconica* patch tested himself repeatedly with extract of primrose, whereupon he became so sensitive to the plant that if he touched a leaf or even passed through a room in which dried leaves had been pul-

verized, it caused an extremely annoying dermatitis of long duration. He repeated this experiment on other normal persons with the result that they also became hypersensitive to contact with primrose. This sensitivity covered the entire skin of the patient.

Dr H V Mendelsohn in a personal communication told me of a patient with a "hair tonic" dermatitis on the scalp, ears, and eyelids. When the eruption had practically disappeared, a patch test with the "hair tonic" was applied. After twenty four hours there was a marked local reaction, with rapid incidence and extension of a generalized erythematous-papulo-vesicular dermatitis, covering most of the upper trunk, arms, face, and scalp, which did not subside until the tenth day.

Arsphenamines used in patch testing to determine the cause of a dermatitis in a patient under treatment with arsphenamine, or arsphenamine patch tests used to determine whether or not the patient is susceptible to the drug before it is begun, have on rare occasions given curious reactions. Schoch<sup>7</sup> reports a generalized subacute dermatitis due to the arsenobenzol radical of Bismarsen. Neoarsphenamine 1:3 aqueous solution was applied to the right arm and Bismarsen 1:3 aqueous solution to the left arm. Twenty four hours after applying the drugs a vesiculo-bullous eruption appeared on the sites of application and a generalized severe scarlatiniform erythema became manifest, which subsided two days later. In order to determine whether the patient's skin showed a general hyperirritability subsequent to his pre-existing dermatitis, percutaneous tests were done with mercuric chloride (1 per cent in alcohol), formaldehyde (5 per cent), tincture of iodine (5 per cent), alcoholic solution of ether extract of leaves of *Rhus Toxicodendron*, quinine hydrochloride (1 per cent in alcohol), and potassium bismuth tartrate paste. They were all negative. The patient tolerated normally potassium, bismuth tartrate 0.1 Gm. intramuscularly. Schoch believed that the generalized eruption was

due to the absorption of the drugs through the skin at the test sites.

On February 17, 1933, Herman Beerman<sup>8</sup> presented a case before the Philadelphia Dermatological Society under the title of "Cutaneous Sensitization to Arsenic Through the Patch Test." The history follows: N W, a woman aged 28, presented on March 15, 1932, a primary vulvar lesion. She was given treatment with one of the arsphenamines. A patch test made on the day after the first treatment was negative. Following the tenth treatment, on May 8, a papular dermatitis of the neck and legs developed, which was considered to be a mild arsphenamine eruption. After four weeks of treatment complete involution of the eruption occurred.

"The apparent delay in the involution of the mild dermatitis was occasioned by the coincident occurrence of inguinal and crural dermatophytosis. Antisyphilitic treatment with bismuth was resumed, it was well tolerated. On November 16 another patch test was performed. On the night of that day the test sites became pruritic, and there was slightly generalized pruritus. The test in twenty four hours was strongly positive. On February 15, 1933, another patch test was made. Nine hours later the patient presented a marked erythema of the neck, thighs (with accentuation in the crura), and upper extremities. In addition there were marked edema of the left arm, and a flare-up at the site of the patch tests performed on November 16, 1932. Within twenty four hours the eruption was practically gone. The patient is presented mainly to call attention to the possible danger of performing routine patch tests."

Stokes in discussing Beerman's case stated "This case is presented because we have had occasion to suspect that in the routine testing of the patient for sensitization to the arsphenamines she may have become sensitized through the test itself. In our series we attempted to avoid inducing exfoliative dermatitis by testing each person who was to receive an arsphenamine preparation to see



whether he was sensitive to arspenamine before he started taking it, and we obtained such a high incidence of exfoliative dermatitis that we suspected that we had induced more than an ordinary sensitivity to the drug

"The case is shown for another reason as well. We have for a long time suspected that exfoliative dermatitis occurs with particular ease in subjects susceptible to and carrying a focus of dermatophytosis. We suspected that they were sensitized as a patient with asthma, for instance, is sensitized by a focus in the sinus of infection. I think that it is possible that dermatophytic infections of the groin are at the base of the high susceptibility of some persons to exfoliative dermatitis."

The presence of dermatophytosis is the weak point in Beerman's case, as an arspenamine dermatitis can well activate a latent dermatophytosis and vice versa. It has long been known that the combination of allergens, or their synergistic action can, by exceeding the level of tolerance, increase the severity of a pre-existing dermatitis, or cause it outright. In a paper read before the Section on Dermatology of the Medical Society of the State of Pennsylvania on October 1, 1935, entitled "The Patch Test in the Determination of Arspenamine Sensitization" Beerman stated in his summary "The patch test may not be entirely harmless. It may cause an exacerbation of a subsiding dermatitis and repeated application of the test may induce cutaneous sensitization to the arspenamine."

Ante Vuletic<sup>9</sup> reports an arspenamine dermatitis of severe character on the hands of an assistant which were frequently wet with salvarsan solutions, she also developed asthmatic symptoms. The symptoms did not appear until the third year of mass exposure. A few weeks later, Vuletic became similarly affected, but to a much less extent. The assistant became quite ill, the picture was that of acute arspenamine hypersensitivity. Despite treatment the eruption was still present two years later, and there was a profound change in the structure of the

skin, which strongly resembled the precancerous condition described by Ebert of Chicago following long continued contact with the arspenamines. Wise and Sulzberger<sup>10</sup> in the *Yearbook of Dermatology and Syphilology for 1934* report the case of a young nurse who worked preparing arspenamine solutions in the New York State Syphilis Clinic in Albany. She suffered asthmatic attacks, dermatitis, and gastrointestinal symptoms which were very severe and always worse on the days that she mixed the drug. They disappeared entirely after she was transferred to other work.

In this group of cases contact with arspenamine is apparently alone responsible for the hypersensitivity to the drug.

In October, 1937, a young woman came to my office suffering from a typical contact dermatitis of three months duration. It was limited to both axillae, and as it had appeared only a few weeks after the frequent application of a patented deodorant, I naturally surmised that this preparation was responsible. On my advice she discontinued its use and within four weeks made a complete recovery. I then unfortunately conceived the idea of confirming my diagnosis with a patch test, which was strongly positive in twenty-four hours. To my dismay she called a day later with a generalized eczematoid dermatitis all over her body which did not disappear before two weeks, and in the first few days confined her to bed.

Another patient, a man aged 33, suffered from an extensive and almost universal vesiculo-papulo-bullous eczematoid dermatitis, which totally incapacitated him. This eruption did not disappear until four weeks later. The patient, an exceedingly intelligent man, gave the following history: for five or six years he had had a severe seborrhea sicca of the scalp for the relief of which he had run the gamut of the multitudinous nostrums on the market. Several druggists had favored him with both opinion and remedies. On May 8, 1931, he used a new nostrum which he had never before used. On the following day a severe dermatitis

appeared on his scalp and face but did not spread beyond those regions. Within two weeks it had practically healed. His physician then conceived the idea of soaking a piece of blotting paper with the "hair tonic" placing it on his arm and covering it with cellophane. After it had remained in place for ten hours the patient, suffering intense pain, had to remove it, he then discovered a severe bullous eruption on the site of the test, with much surrounding angry erythema. Within twenty four hours the eruption had spread to both arms and chest, and a day later a generalized eruption appeared all over the body. It was at this stage that I first observed him. These two cases did not have epidermophytosis or any other skin disease, or antedating allergic phenomena.

# Comments

It is the purpose of this paper to correlate some of the evidence for and against the theory of increased or induced hypersensitivity from patch testing. I am ready to admit that polyvalent or synergistic sensitivity greatly clouds the issue, as also the extreme sparsity of the literature on the subject. Again it may be perfectly possible that a dermatitis venenata can be induced by patch testing with such a strong concentration of substances as to induce a burn, even in normal subjects. This is particularly true of soaps and chemicals. On the other hand, sufficient evidence exists to warrant bringing the matter to your attention, and thus, I believe, is the first attempt to do so. I also wish to go on record as a firm believer in the patch test as a guiding light on the uncharted seas of allergy, and I am deeply grateful for the extraordinary amount of research done by our dermatologic immunologists. They have emulated in this field the pioneer work done by dermatologists in the therapeutic use of roentgen rays.

# References

1. Jadassohn, Joseph. Zur Kenntnis der Medica mentosen Dermatosen V. Deutscher Dermatologischen Kongress, Vienna 1890. Wilhelm Braumüller.
2. Bloch, Bruno: Archives of Dermatology and Syphilology 10: 175 (1920).

3. Markley Arthur J. Arch. Dermat. & Syph., 21: 722 (1920).
4. Sulzberger Marion B. and Wise Fred.: The Contact or Patch Test in Dermatology.
5. Bray, George W. Recent Advances in Allergy Second Edition London, J. & A. Churchill, Ltd. 1934.
6. Rostenberg Adolph Jr. and Sulzberger Marion B. Arch. Dermat. & Syph. 35: 433 (1937).
7. Schoch Arthur G.: Am. J. Syph. Gonorr. & Ven. Dis. 14: 75 (1930).
8. Beerman Herman Arch. Dermat. Syph. 28: 200 (1933).
9. Vuletic, Ante Arch. Dermat. & Syph. 169: 436 (Dec. 18) 1933.
10. Wise, Fred. and Sulzberger Marion B. The 1934 Year Book of Dermatology and Syphilology p. 91. The Year Book Publishers, Chicago.

# Discussion

Dr Marion B. Sulzberger, New York City—When Dr. Bechet was kind enough to ask me to discuss his paper my "preview" of the manuscript soon convinced me that anything I might say would prove repetitious and would moreover be a repetition in less elegant language. The point that Dr. Bechet stresses is an important one and one which may well have significance in legal considerations and in possible lawsuits and claims for harmful effects subsequent to and ostensibly due to patch tests. Therefore, I believe it imperative that we present the actual status of this matter in unequivocal terms just as Dr. Bechet has done. I am sure that we all agree with Dr. Bechet that provided the physician possesses the necessary knowledge and training and provided that proper indications be established and adequate precautions be taken and correct technique be used with these provisions the dangers of the patch test are, to all practical purposes of negligible degree. It is my own opinion that the dangers of correct patch testing are probably less than the dangers in prescribing salicylates, or of using white ammoniated mercury ointment or of a host of other daily therapeutic and investigative procedures and perhaps less even than the dangers in the household use of iodized salt in geographic areas where additional dietary iodine is not necessary.

Since I could not express these conclusions more beautifully and clearly than Dr. Bechet has done, I thought it might interest this audience to hear what J. Jadassohn who in 1895 introduced this test, has last written on this subject. I quote from the recently published posthumous text from the sole textbook on dermatology from the pen of this great master (A. Weidmann, Vienna and Bern 1938). The poor but, I believe fairly accurate translation is mine.

From certain quarters the patch tests have received unfavorable comment on the one hand because they often fail to give conclusive results. Of course this cannot be denied in certain cases of eczema. But every positive result may be of the very greatest practical significance to the

patient, and it must be stressed again and again that the more careful the history, the more extensive the testing, the greater the number of successes

"From other quarters one has heard that the patient may be harmed by this method. This too must be admitted in principle—occasionally more generalized eczematous irritations may be provoked. But these are almost always easy to subdue

"It is also important in acute eczemas to wait until the most severe irritations have subsided, and even then to choose particularly weak concentrations

"Much more serious is the consideration that in testing with many substances a sensitization might be produced. This is surely correct theoretically. But when we ask what has become known regarding the practical occurrence of such sensitizations, we must answer in the negative. And this in spite of the fact that these tests have now been employed for a great many years and in an extremely large number of cases. It seems that such tests, carried out once or several times are, under ordinary conditions, simply incapable of sensitizing."

In this connection, and in regard to the last point, I should like to emphasize that there may be a way of determining whether a reaction to a patch test is based upon a sensitization produced by the test or whether it is due to a pre-existing sensitivity. A reaction due to a newborn, freshly created sensitivity does not as a rule appear until at least 5 to 9 days have elapsed. This is the usual incubation period of sensitiza-

tion (spontaneous "flare-up" of sites of sensitizing applications). Retesting a patient with such a flare-up reaction and using the same concentration originally employed, then generally produces a visible response with only the usual 24- to 48-hour period of latency—that is, after the expiration of the usual time necessary for development of manifest reactions in individuals previously sensitized. This fact has been repeatedly verified in the studies of Dr. Rostenberg, Jr., Dr. R. L. Baer, myself, and by Dr. Grolnick and others. These distinctions between "period of incubation of sensitization" and "period of latency—or of reaction time—in the previously sensitized" were, I believe, clearly pointed out by Dr. Wise and me in our article\* on sensitizations to butesin picrate and I believe that these distinctions are not only of theoretical interest but may often be of practical and even of medicolegal importance.

It is obvious that in Dr. Bechet's cases the sensitization was not *due* to the patch test. Nevertheless, we must not forget that such sensitizations may in other cases be produced, particularly when careless or improperly informed and inadequately trained individuals apply incorrect concentrations of such substances as arsphenamine, paraphenylenediamine, and line derivatives, nitrochlorobenzines, formalin, phenylhydrazine, and many others.

I wish to thank Dr. Bechet once again for asking me to discuss his presentation and particularly to congratulate him on his lucid and conservative exposition of this timely subject.

---

\* Arch. Dermat. & Syph., 28, 461 (1933)

## UTAH STATE MEDICAL ASSOCIATION PREPAYMENT PLAN

The House of Delegates of the Utah State Medical Association has endorsed a plan of combined hospital insurance and cash indemnity for a limited amount of medical care. The hospital plan follows the general lines of existing plans as reported in the *J. A. M. A.*, except that anesthesia and laboratory and x-ray services are provided for on a cash indemnity basis instead of being included in hospital care. The annual premium for the hospital plan is \$10 for an individual, \$18 when one dependent is included, and \$24 for an entire family regardless of size.

Only those who are covered by the hospital insurance plan are included in the cash indemnity plan for general medical care. The additional premiums are exactly the same as for hospital

care, making \$21.60 annually for an individual, \$36 for an additional dependent, and \$48 for a family for both hospital and medical care. The amounts to be reimbursed to the insured for various medical services are set forth in a schedule, and surgical services are limited to one major and one minor operation per member in a single year.

Enrollment is confined to employed persons and to groups which may be either employees of a common employer or "members of church and fraternal groups and their dependents agreeing to collect the necessary membership fees by assessment for subscription, remitting through a designated agent."

# Public Health Notes

J ROSSLYN EARP, L R C P, Dr P H  
New York State Department of Health

## The Tuberculin Test in Case Finding

THE Department of Health has been so outspoken in its condemnation of the extravagance of seeking tuberculosis among children in the grade schools that some may have supposed that we have no use for the tuberculin test at all. At the recent annual meeting of the New York Tuberculosis and Health Association, Dr Robert E Plunkett had an opportunity to correct any such impression. We need a tuberculin of uniform potency. A positive tuberculin test is of value, first, as an aid in establishing a diagnosis, second, and from our point of view more important, as a clue leading to the discovery of the source of infection. In this sense the practicing physician will often use tuberculin to find cases of tuberculosis.

The question to which Dr Plunkett more especially addressed himself was in regard to the value of a wholesale use of the test in groups of people with a view to segregating the positive reactors for further study. Is this good public health practice?

In the first place it depends on how large the proportion is of positive reactors in the group. If from previous study or from a knowledge of morbidity and mortality in the group we have reason to believe that most of them will react positively, then we might as well proceed at once to use x rays on the entire group. The few x ray films that we might save by isolating a few individuals negative to the tuberculin test would not compensate us for the expense of testing all with tuberculin. Even though a slight saving in administrative costs to the state should be effected, the cost to the patient must also be reckoned. When the tuberculin test is used each positive reactor must make an extra trip to the clinic for further examination. He may have to lose time from

his work and travel some distance to do so. An x ray photograph of the chest has other values besides contributing to a diagnosis of tuberculosis. The group with which we most commonly deal is made up of individuals referred by the practicing physicians as suspicious cases. Not one in ten has tuberculosis. But many of them have diseases of the chest that will yield some information to the x ray and enable the clinician of the division of tuberculosis to return to the family physician something more useful than a mere assurance that his patient is not tuberculous.

On the other hand, in communities in which the administrative service is sufficiently well equipped to tabulate and evaluate the results, tuberculin tests may have an important value in research.

I should like to give Dr Plunkett's conclusion in his own words.

In conclusion therefore, may I again emphasize that the most profitable yield in tuberculosis case finding is realized by the examination of adult groups, particularly contacts, patients with suspicious symptoms, those in certain industries, and those found in the lower economic brackets. Whether the tuberculin test shall be used in such studies will depend upon the scope and extent of the tuberculosis problem as may be indicated by morbidity and mortality data, the convenient distribution of clinic service, and the type and extent of the diagnostic purposes of the service."

---

### Ask Me Another

The medical editor continues to receive all sorts of inquiries from all parts of the state and sometimes from other states

as well One teacher at a public school asks for booklets on the following

"School hygiene, home hygiene, sanitary stores, proper ventilation, proper foods, proper clothing, how the police, sanitation and health departments help us, necessary measures for community health, how to obtain a birth or employment certificate, sterilization of water, prevention and curing of typhoid fever, protection against mosquitos, flies, removal of ice and snow, personal health or any other available booklets on health "

This schoolteacher is more considerate than certain of his profession who advise their pupils to write for pamphlets and so start an avalanche of immaturely decorated postcards

Sometimes the inquirer fails to express his exact intention and thereby brightens the editorial office for a spell "Please send me some booklets on different diseases which are free", "Please send me information on sugar and a diet to help get rid of it" and another, which I hereby dedicate to Dr Alvarez, "Please send me free booklet on pernicious enema "

We try to respond promptly to all such requests But the other day from Ozone Park we got an inquiry that seemed almost to call for telegraphic response "Please send me information on breathing Your immediate attention would be greatly appreciated "

#### A FEW FLAWS IN UTOPIA

The trumpeted "Group Health Association," of Washington, D C, which was to be a sort of pattern or model for the Utopian era of state medicine, seems to have a few flaws, if we are to believe a report in a reputable neighboring newspaper that is being quoted in various medical journals As one of them reports it

"The *Baltimore Sun* of January 11 last, reports from its Washington Bureau that Group Health Association, Inc, has lost the services of its director of the department of internal medicine

"Dr Richard H Price is quoted as saying that he was leaving the Association because it provided 'unsatisfactory medical service' He is reported to have claimed that some members were required to wait as long as a week to see a doctor when they should have been seen at once, and that in general, members are 'treated like a herd

of sheep,' instead of receiving the sort of service available to private patients

"Other complaints were that too many physicians were often sent to see one patient, rather than to arrange for one man to see the illness through Many times the second and third doctors knew nothing of the case history It was also stated that there was unnecessary delay before important surgery could be performed

"All charges were denied by the president of the association

"We do not know Dr Price who is retiring after over a year of service with the organization and we do not know whether the charges are exaggerated or purely trumped up We do not know whether personal jealousy or hatreds might be responsible for one to leave such employ But here are the first whisperings of dissention behind the lines of the opposition and we would like to know so very much more about it "

#### ILLUSTRATED EXHIBIT

An illustrated historical display on "Contributors to the Knowledge of Congenital Syphilis" will go on exhibition in the library of the Academy of Medicine, 2 East 103rd Street, New York City, starting Friday, April 28 The exhibit has been prepared by the Bureau of Social Hygiene, Department of Health, in co-operation with the Section on Dermatology and Syphilology and the Librarian of the Academy

The opening of the exhibit has been set for

April 28 to coincide with the Section's special meeting on "Manifestations of Late Syphilis," to which physicians of the city have been invited

The meeting will be held at the Academy building at 8 30 P M An opportunity to observe cases will be offered and the physicians in attendance will have the opportunity of hearing a full discussion of diagnosis and treatment by members of the section Open debate from the floor will be encouraged

# The Woman's Auxiliary

To the Medical Society of the State of New York

CALLING all doctors' wives to meet in Syracuse, New York, on April 24, 25, and 26, for the Fourth Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York.

Under the able chairmanship of Mrs John Buettner and her committees nothing has been left undone to make this convention one long to be remembered. The finest of plans have been made for the entertainment of all who attend. All kinds of events have been arranged. The Delegates' Dinner on Monday the 24th will surely surpass anything ever planned before—"tops" in everything except price! The luncheon on Tuesday and the tea on Wednesday will offer opportunities to meet old friends and make new ones. The informality of the social functions is an attractive feature of this convention, and the members of the Woman's Auxiliary of the Onondaga County Medical Society will promote, with gracious charm, sociability among the many guests.

Our hobby show is a great attraction. Each county auxiliary has been invited to participate and send entries for the show. Visit the show and see how doctors and their wives utilize their leisure time!

Do plan to come. Our president, Mrs Daniel Swan, is looking forward with great pleasure to meeting you.

The Woman's Auxiliary to the Medical Society of the State of New York welcomes the Woman's Auxiliary to the Medical Society of the County of Broome, organized on March 23, 1939, in the Empire Room of the Arlington Hotel, Binghamton.

Eighty doctors' wives attended this meeting and showed their interest and enthusiasm in auxiliary work. Mrs Al

vin Carpenter presided and presented Dr Charles Allaben, who spoke of the Medical Society's approval of the auxiliary, and Dr Blinn Buell, chairman of the public relations committee of the Broome County Medical Society, who spoke highly of auxiliary work.

Mrs Daniel Swan, our state president, and Mrs Luther Kice, chairman of organization, addressed the women concerning the aims and prospects of the organization. Mrs. John H Robertson was elected president. A constitution was adopted and signed by the women present who became charter members of the new auxiliary. The best wishes of all organized county auxiliaries are extended to Mrs Robertson, her officers, and chairmen for the success in their new organization.

Mrs William Behan and Mrs Charles Squires were hostesses of Mrs Swan and Mrs Kice.

## County News

### Albany County

A meeting of the Woman's Auxiliary to the Medical Society of the County of Albany was held on February 21, at 8 30 p.m. in the auditorium of the Joseph Henry Memorial Hospital. Mrs Albert Vander Veer presented Dr James F Rooney, Past President of the Medical Society of the State of New York. Dr Rooney's talk on socialized medicine was well received by an interested audience and was followed by an open discussion.

Mrs Frank Coughlin, chairman of *Hygeia*, reported that a copy of *Hygeia* had been placed in every public, parochial, and private high school in the County of Albany as the year's project of the auxiliary.

A social hour followed the business meeting.

### Cayuga County

Mr Willard W Seymour of Syracuse addressed the members of the Woman's Auxiliary to the Medical Society of the County of Cayuga at the meeting held in the Auburn City Hospital on February 16, 1939. The Blue Cross plan for hospital care was discussed.

### Jefferson County

An essay contest on the subject of "Highway Hazards" was sponsored by the Woman's Auxiliary to the Medical Society of the County of Jefferson as the auxiliary's project for the year, for boys and girls of 12, 13, and 14 years. Three prizes (\$5, \$3, and \$2) will be given for the best essays on any phase of the topic "Highway Hazards". The subject was suggested by Dr J E McAskill, president of the Medical Society. The contest closed March 25. Winners will be announced sometime in April. Judges will be Dr Harold Gokey of Alexandria Bay, representing the Medical Society of the County of Jefferson, Mr Lyman L Goodrich, representing automobile salesmen, and Mr Alton H Adams, representing the *Times*. Auxiliary members in charge of arrangements for this contest are Mrs Sutherland E Simpson, Mrs Harry Righter, and Mrs J Hedly Atkinson.

### Kings County

The fourth anniversary of the Woman's Auxiliary to the Medical Society of the County of Kings was celebrated at a luncheon and meeting held in the Medical Society Building on March 14, 1939. The president, Mrs Milton Bergmann, presided and welcomed the members. Mrs Valentine Bourke, chairman of hospitality was in charge of arrangements. The honor of cutting the birthday cake was given to Dr Adele Streeseman, chairman of the Advisory Council, who addressed the auxiliary. Mrs John L Bauer, who was the first president of the Kings Auxiliary as well as the first president of the Woman's Auxiliary to the

Medical Society of the State of New York also addressed the auxiliary. The members then enjoyed an educational film.

The function in addition to celebrating the anniversary was held in honor of twenty-eight new members.

### Orange County

Mrs Harry Pohlman of Middletown was elected president of the Woman's Auxiliary to the Medical Society of the County of Orange. Plans for the year work were made at the February luncheon-meeting of the executive board held at the Mitchell Inn, Middletown. On March 7 the executive board met at the home of Mrs Pohlman. Dr Stanley Quackenbush, a member of the advisory council of the auxiliary, spoke briefly to the members.

### Queens County

The sixth anniversary of the Woman's Auxiliary to the Medical Society of the County of Queens was celebrated by a tea on March 17 at the Medical Society Building. In the absence of the president, Mrs Lavelle, Mrs Miller Saunders, first vice-president, greeted the members and guests. She read a letter of welcome from Mrs Lavelle and a congratulatory message sent by Mrs John Bauer, first president of the State Auxiliary. The members and guests enjoyed several piano and vocal selections. Mrs John W Mahoney and Mrs Thomas M d'Angelo, two past presidents of the auxiliary, were hostesses at the tea table. Among the guests were Mrs Luther Kice, Mrs Louis Van Kleeck, Mrs Bell, and Mrs G Long of the Nassau Auxiliary.

The stated meeting of the auxiliary was held on March 28, 1939, in the Medical Society Building. The members enjoyed listening to Dr Bruno Gebhard, technical consultant of the American Museum of Health of the New York World's Fair 1939, who spoke of the Medical Building at the Fair and of the exhibits and lectures planned for the laymen. Mr G Starkman, director of exhibits of the World's Fair, showed pic-

tures of the many buildings at the Fair and explained the purpose of each one.

With deep regret the chair announced the death of Dr Albert Voltz, past president of the Medical Society and a member of the Board of Trustees. The secretary was instructed to send a letter of sympathy to Mrs Voltz and her family.

### Rensselaer County

The Board of Directors of the Woman's Auxiliary to the Medical Society of the County of Rensselaer met on March 2, 1939, in the home of Mrs. Oney Smith. Plans for the activities and programs of the auxiliary were discussed.

Mrs. James Donnelly presided at the stated meeting of the auxiliary held on March 16 at the Troy Hospital. Mr O T Anderson, educational director of the Community Chest Campaign, spoke to the members of this project and asked for the cooperation of the auxiliary in its

work. Dr Joseph Lawrence, Executive Secretary of the Medical Society of the State of New York, also addressed the auxiliary. His topic was "The Legislative Side of Medicine."

A social hour followed the business meeting.

A delightful afternoon tea was given in honor of Mrs. Daniel Swan by Mrs Edwin Griffin, first vice president of the State Auxiliary at her home, 311 Garfield Place, Brooklyn, New York, on March 31, 1939. Many guests, members of the executive boards of the various county auxiliaries, attended the tea and enjoyed the musical program arranged by Mrs Griffin. Receiving with Mrs Swan was Mrs G Scott Towne, president-elect of the State Auxiliary. Assisting them were Mrs Louis Van Kleeck, Mrs Luther Kice, and Mrs Milton Bergmann.

### LABORATORY AIDS IN THE DIAGNOSIS AND TREATMENT OF PUERPERAL INFECTIONS

Much of the obscurity of prebacteriology days regarding 'child bed fevers' has been dispelled by evidence that postpartum and postabortion fevers are usually due to infection of the placental site by pathogenic microorganisms. These infections are still a frequent cause of maternal deaths and occasionally blaze up in highly fatal epidemics, they remain a standing challenge to the medical profession. An elevation of the pulse rate and a severe chill are often the first symptoms. Fever is rarely absent. Lower abdominal pain and suppression of the uterine discharge may occur. Factors predisposing to infection are believed to be (1) prolonged labor, (2) extensive lacerations, (3) excessive hemorrhage, (4) instrumentation, (5) repeated vaginal examinations during labor or faulty technique by one of the attendants, (6) retained portion of placenta, (7) antepartum toxemia.

Two main groups of these infections are clearly recognized. (A) Hemolytic streptococcus infections (chiefly Lancefield's Group A). These cases occur either sporadically or in epidemic

outbreaks. The hemolytic streptococci are probably almost always introduced into the birth canal by one of the attendants, pelvic thrombophlebitis, peritonitis and bacteremia are frequent complications. The case fatality rate is high. (B) Anaerobic streptococcus infections. The best known habitat of these species is the female genital tract. While these infections occur only as sporadic cases they constitute one-third or more of all puerperal infections. The discharge is foul. Cultures of it and of the blood, unless grown anaerobically do not reveal the infecting agent. In these cases also thrombophlebitis, peritonitis, bacteremia and a fatal outcome are not uncommon. What was formerly called sapremia was probably this type of infection. The infecting agent was not demonstrated because the cultures were not grown anaerobically.

In addition to these two groups, a few cases are due to infection by staphylococcus, *B. coli*, *N. gonorrhoeae* and the anaerobic spore-forming microorganisms.



# Medical News

## Albany County

Dr G Emory Lochner, dean of Albany obstetricians, was honored at a dinner on March 15 given by the board of trustees of the Anthony N Brady Maternity Home, to celebrate his fifty years as a practicing physician

The jubilee dinner was a surprise to Dr Lochner, who has been chief of staff of Brady Maternity Hospital since its founding, and who helped inaugurate the old Elliott Austin Maternity Home in Elm Street, predecessor of the modern Brady Home

The dinner, arranged by the Sisters of Charity at the home, brought the Most Rev Edmund F Gibbons, Bishop of the Albany Catholic Diocese and president of the board, members of the hospital staff, and representatives of the Catholic Charities organization

A newspaper paragraph on March 14 related that "Dr Anna Perkins, of Westerlo, N Y, yesterday fought her way with two State troopers and twenty volunteers for fifteen hours through a snow-choked trail to give medical aid to two children, ill with influenza in a remote farmhouse. The woman doctor completed the last mile and a half of the trip on snowshoes and reported that Marion Shufelt, three, and her sister Ethel, six, had 'an excellent chance' of recovering from influenza "

## Bronx County

The Bronx County Medical Society has sent a letter to Borough President Lyons protesting against any suspension of the Residence Law which would admit non-residents to appointment as local health officers

The Civil Service Commission, according to the letter, set up specific requirements designed to exclude local applicants, such as "a degree in public health " It said no member of the Health Department who is a doctor of medicine holds

such a degree. Of the hundreds of physicians in New York City, there are many who are perfectly competent to occupy the position of district health officer, the letter stated

## Chenango County

The committee of the Chenango County Medical Society, appointed recently to discuss with the supervisors the fees paid for attendance in welfare cases, will ask that in cases where attendance necessitates a drive of several miles, mileage be allowed in addition to the fee. The question arose when physicians were notified by Welfare Commissioner Woodruff that the maximum fee upon which the county could seek reimbursement from the state was \$2 for home calls It is said that adjoining counties and some towns now allow mileage

## Cortland County

Dr Howard Peter Johnson, eighty three years old, a practicing physician for more than fifty years and holder of the Cortland County Medical Society's cane which is kept by the oldest member of the society, died on March 4 at his home in Cortland

## Dutchess County

Approximately seventy-five attended a meeting of the Dutchess County Medical Society at the Amrita Club in Poughkeepsie, on March 8, to hear an address by Dr John A Kelley, of Memorial Hospital, New York City

He discussed "A General Survey of the Diagnosis and Treatment of Gynecologic Neoplasm "

Dr Gilbert S Taber, vice-president, presided in the absence of Dr Scott Lord Smith A buffet supper followed

## Fulton County

The regular monthly meeting of the Fulton County Medical Society was held

at the Hotel Johnstown, at Johnstown, on Thursday, March 16 President John A. Shanon presided.

The major part of the meeting consisted of a variety of business which included a report by Dr Alfred F Goodwin of Gloversville, chairman of a committee appointed in February to investigate the matter of inadequate fee schedules for county welfare cases Dr Goodwin reported on a questionnaire submitted to all the county societies in the state, the majority of whom replied immediately

An excellent cross-section of the various problems confronted in welfare work throughout the state was represented in this questionnaire.

The scientific program consisted of an excellent talk by Dr George V Taplin of the Strong Memorial Hospital, Rochester, on "Pneumonia." Dr Taplin outlined in detail standard procedure followed in the diagnosis, treatment, and management of all pneumonia cases at the Strong Memorial His observations on serum therapy were particularly interesting He also touched on sulfapyridine.

—Reported by Louis Tremante, M D,  
Secretary

### Jefferson County

The economics committee of the Medical Society of Jefferson County presented a plan for a nonprofit health insurance association at a regular monthly meeting of the society at the Black River Valley Club, on March 9

The plan, presented by Dr Willis W Young, chairman of the committee, is similar to the hospital service plan The society will discuss the plan at future meetings before taking definite action

The society directed its legislative committee to inform legislators in Albany that the society was in favor of enabling legislation making a health insurance plan legally possible under state insurance laws

The guest speaker was Robert Seacock, Ph.D., assistant professor of physiologic chemistry at the University of

Rochester, whose topic was "Vitamins from a Functional Viewpoint."

### Kings County

The scientific program of the Medical Society of the County of Kings on March 21 included these addresses "Socialized Medicine," by Dr Joseph Slavitt, "Group Practice and Its Relation to the Future of American Medicine," by Dr Kingsley Roberts, "Medical Expense Indemnity Insurance," by Dr Chas Gordon Heyd, and "The National Health Program," by Dr Haven Emerson

Dr Harry M Greenwald spoke at the MacNaughton Auditorium on April 14 on "Splenic Enlargement."

The monthly meeting of the Medical Society of Bay Ridge was held on March 14 at the Shore Road Academy This meeting is known as "old home night" and is held once a year The entire program was rendered by members of the society The papers read at the meeting were as follows

"Septicemia Treated with Bacteriophage," by Dr William F Rexer, "Observation and Treatment of Pneumonia," by Dr Reginald J Blaber, "Infectious Mononucleosis," by Dr G Broncato, "Massive Intrapertoneal Hemorrhage," by Dr Anthony L Shelfo Experiences with Leprosy in China," by Dr Reginald J Blaber

Dr Thomas M. Rivers, of Forest Hills, has been appointed and sworn in by Mayor LaGuardia as a member of the Board of Health to succeed the late Dr Carl Boettiger

Strongly recommended by Health Commissioner John L Rice for a place on the policy-making board, Dr Rivers is a director of the Rockefeller Institute for Medical Research, chairman of the committee on scientific research of the National Foundation for Infantile Paralysis, and a member of numerous medical societies

He was born in 1888, was graduated

from Johns Hopkins in 1915 and lives at 163 Greenway South, Forest Hills His term is indefinite and he draws no salary as board member

Dr Rice declared "Dr Rivers will add outstanding strength to the membership of the Board of Health"

### Monroe County

Five million young people who are now in this country will at some time suffer some form of mental illness

Dr George Kirby Collier, chairman of the Mental and Nervous Disease Committee of the Monroe County Medical Society, made this statement at a meeting in the Rochester Academy of Medicine, on March 12, illustrating the extent of mental illness

He called attention to the fact that there are accommodations for 3,300 patients at the Rochester State Hospital, and only 2,917 beds are available in twenty-two hospitals of other types in Monroe County

He continued

"In one year the number of persons in mental hospitals was about the same as in our colleges and universities, and in a more recent survey, the number of first admissions to mental hospitals was about the same as the number of young men and women graduated from our colleges and universities"

Dr John L Van De Mark, superintendent of the Rochester State Hospital, spoke on its history and work

The Rochester Pharmaceutical Society announces it will join the Monroe County Medical Society in the fight against "dangerous self-medication"

A committee will be named to work with the county society committee, headed by Dr David A Haller, which has been studying problems created by the sale of drugs which, the committee claims, are harmful when taken without a physician's advice It is expected that state and possibly federal legislation will be sought after physicians and pharmacists agree on a policy

### Nassau County

The scientific program of the Nassau County Medical Society on March 28 included an address by John Edward Jennings, M D , F A C S , Director and Surgeon, Brooklyn Cancer Institute, Senior Surgeon, Brooklyn Hospital, on "The Management of Carcinoma of the Colon"

Dr Louis H Bauer, president of the Nassau County Medical Society, led a discussion on the "Economics of Medical Care" at the Long Island Regional Conference on Social Work in Garden City on March 21

### New York County

With nearly two-thirds of the total membership of the Medical Society of the County of New York failing to vote, a poll completed on March 17 showed a margin of nearly three to one against compulsory health insurance, Dr B Wallace Hamilton, secretary, announced The poll is believed to be the first of its kind in the country

Of 4,800 members of the society, 1,718 cast votes Of these, 1,286 voted against compulsory health insurance and 432 in favor of it The question on which the vote was taken was as follows

"If under Proposition 4 of the national health program, money is made available to New York State to provide care for the low income-earning groups, do you favor the delivery of this medical care by means of compulsory health insurance?"

The meeting of the Medical Society of the County of New York on March 27 was devoted to the following symposium on mental health problems "Types of Depression and Some Aspects of Treatment," by Dr Gerald R Jameison, "Some Recent Progress in the Study of Convulsive Disorders," by Dr S Eugene Barrera, "The Treatment of Acute Mental Disorders, Including Organic Deliria and Delirium Tremens," by Dr Karl M Bowman, and "The Role of the Family Physician in the Psychoanalytic Treatment of His Patients," by Dr

Lawrence S. Kubie. Discussion Dr. Nolan D. C. Lewis (by invitation), Dr. Henry James Spencer, and Dr. Henry Alsop Riley.

The Committee on Cardiac Clinics of the New York Heart Association, Alfred E. Cohn, M.D., presiding officer, held a scientific session at the New York Academy of Medicine on March 28, with addresses by Dr. Harold E. B. Pardee, Dr. Cary Eggleston, Dr. Clarence E. de la Chapelle, Dr. Arthur C. De Graff, Dr. Robert L. Levy, Dr. Charles E. Kossmann, and Dr. John B. Schwedel.

A program to provide medical care for WPA workers in periods of illness has been devised by federal relief officials in New York City, but is being held in abeyance until the financial future of WPA is decided by Congress. Lieut. Col. Brehon B. Somervell, local Works Progress Administrator, discloses:

The program, similar in basic outline to the one used by the department of welfare in meeting the medical needs of home relief recipients, the aged and the blind, has been indorsed by representatives of the five county medical societies, Colonel Somervell said.

The lack of any provision for treating WPA workers who are ill, in their own homes, has long been deplored by social workers and public health experts. They point out that persons on WPA have no resources except their relief pay and that this pay stops when illness makes it impossible for the worker to report.

In the absence of a comprehensive medical program, the sick WPA employee must choose between asking a physician to treat him without fee or going to a city hospital at much greater cost to the taxpayer than would be involved in home treatment, advocates of WPA medical aid contend, adding that while the worker is away from his job his family often finds it necessary to turn to home relief for the necessities of life.

Colonel Somervell said he believed a medical program would be "a fine thing,"

but that this was deemed an "inopportune" time to start it. The plan under consideration would involve the establishing of a panel of physicians who would be paid by WPA for each home visit they made. Relief workers would be permitted to select any doctor on the panel. This is the system followed by the welfare department, with the active support of organized medicine.

The cost of the welfare department program, which embraces 600,000 needy men, women, and children, is about \$1,000,000 a year. This includes medication and nursing service, as well as medical care. The WPA employs 167,000 persons in New York City. Whether the projected program would apply to all of these and also to their families was not made clear.

#### Onondaga County

Dr. William A. Groat, President of the State Society, addressed the Association of Faculty Women of Syracuse University on March 24 on "The Medicine of Today." The meeting was held in the auditorium of the Maxwell School of Citizenship and about 250 were present.

#### Ontario County

The Ontario County Medical Society, through its public relations committee, has arranged with Station WMBO Auburn, to broadcast health subjects each Thursday evening at 7:15. "Pneumonia" was the subject of the first fifteen minute broadcast on March 16.

Present-day radio programs carry so many references to health that the Ontario County Medical Society felt that a program in which health topics were discussed entirely devoid of any commercial aspect, might be of interest. The public relations committee, therefore, was instructed to prepare material and to make arrangements with the broadcasting station that donates the time on the air as a part of its policy to use some of its facilities for educational purposes.

Coordinating these two elements, the result will be a series of ten broadcasts.

primarily for the information of the people of Ontario and adjoining counties. The last two programs will be given by the Geneva Dental Society.

Drs Francis D Leopold and Harry M Murphy were the guest speakers at the meeting of the Geneva Academy of Medicine at the Geneva Country Club on March 16. Dr Leopold spoke on "A Résumé of the Recent Advances in the Diagnosis and Treatment of Peptic Ulcer and Carcinoma of the Stomach," and Dr Murphy on "Gastroscoy Its Advantages and Limitations, Including a Demonstration of the Instrument and Model Stomach."

### Oswego County

The regular meeting of the Medical Society of the County of Oswego was held at the Fulton Club, Fulton, on April 5.

There was a special meeting previous to the main meeting of all the officers and censors of the society. Drs Kent Wood Jarvis, Harrison M Wallace, Joseph B Ringland, John J Brennan, Le Roy F Hollis, Ross F Wolever, Sylvester D Kelher, and Olin J Mowry.

The program included two motion pictures "Human Sterility" and "Modern Surgical Treatment of Varicose Veins and Ulcers."

### Queens County

A joint meeting of the Medical Society of the County of Queens and the Queens County Bar Association was held on March 28, with the following program:

"Disciplinary Proceedings Against Licensed Physicians" by Harold Rypins, M D, F A C P, secretary, State Board of Medical Examiners, "Don't Fracture Your Reputation" by Edward Adams, M D, author of "The Doctor-in-Law," "Medicolegal Aspects of Fractures," and others, "Firearm Identification" by Acting Sergeant Henry F Butts of the ballistic bureau of the Police Department of the City of New York, Remarks by Joseph P Rudden, Esq, president of the Queens County Bar As-

sociation, and a Scientific Exhibit by the Society's Committee.

The next meeting of the County Medical Society will be held on April 18, advanced one week to avoid conflict with the State Society meeting in Syracuse.

The Friday afternoon talk on April 21 at 4 30 P M will be on "Sacroiliac Disease" by Dr Charles Dwight Napier, Consultant Orthopedic Surgeon, Long Island College Hospital.

An open meeting of the Queensboro Surgical Society will be held on Wednesday, April 19, at 9 00 P M at the Medical Society building. The speaker of the evening will be Dr James A Cahill, Jr, Professor of Surgery at Georgetown University, Washington, D C. His subject will be "Trauma of the Abdomen and Chest." The annual dinner will be held the same evening at 6 30 P M at the Forest Hills Inn.

### Rensselaer County

Eric W Gibberd, secretary of the Troy Community Chest, spoke on the "Community Chest Drive" at a meeting of the Rensselaer County Medical Society in Troy on March 14.

Dr William T Shields, Jr, president, was in charge of the session.

Other speakers were Dr Robert E Plunkett, whose topic was "Modern Emphasis in Tuberculosis," and Dr John J Randall, who spoke on "The Pawling Sanitarium and Its Needs."

### Richmond County

The attending obstetricians at St Vincent's and Staten Island hospitals, Dr D Vincent Catalano and Dr Charles R Kingsley, Jr, spoke at the meeting of the Richmond County Medical Society on March 8 in the Health Center, St George.

Dr Catalano spoke on "Pelvic Pelvimetry by X-Ray," and Dr Kingsley discussed "Obstetrical Problems."

### Tompkins County

A regular meeting of the Tompkins County Medical Society was held on March 21. Thirty two members were in attendance. A motion was carried to approve the bill of assemblyman Lawrence of Herkimer County to require full citizenship of registering physicians, dentists, and nurses. A motion was carried to place the Tompkins County Medical Society on record as favoring tubercular testing in our public schools.

A most instructive and interesting talk was given by Dr. Oliver Wendell Holmes Mitchell, of Syracuse, on "Health Insurance and State Medicine."

—Reported by Dr. Willets Wilson,  
*Secretary*

### Ulster County

An interesting address on "Classification of Morbid Conditions Giving Rise to Paroxysmal Cardiac Pain, Diagnosis and Therapy," was given before the Medical Society of the County of Ulster on February 7, by Dr. Harold L. Rakov, of Kingston. He discussed the use of various drugs in treating the condition and also showed many lantern slides of charts and electrocardiograph tracings taken from his own case histories.—Reported by Dr. Clarence L. Gannon  
*Secretary*

### Westchester County

The first major step in a nationwide movement for the protection of children from infection through contact with unhealthy adults was taken on March 21 by the Westchester County Medical Society in collaboration with the American Academy of Pediatrics when it launched a campaign for periodic health examinations of parents, domestics, and teachers throughout Westchester County.

Meeting at the New York Hospital, Westchester Division, members of the County Society agreed to have 500 physicians cooperate by providing x ray examinations and blood tests for adults to discover evidence of tuberculosis, syphilis, and other communicable dis-

eases that children might contract. An annual fee of \$10 would be charged to each adult submitting to the tests, it was decided.

Dr. Edward H. Marsh of the County Health Department, chairman of the Medical Society's public health committee, explained that the program originated in Westchester, having been operated on an experimental basis in New Rochelle for two years, and that it was approved last summer by the American Academy of Pediatrics in convention at Del Monte, Calif. Westchester will be the first county to use the plan on a large scale, he explained.

Standard printed forms for physicians to use in the examinations were distributed to the 200 physicians at the meeting. The forms call for one x ray examination of each adult annually and other tests semiannually. Every domestic passing the test will receive a health certificate from the examining physician.

Dr. Ralph T. B. Todd, president of the Society, presided at the meeting and Dr. Abraham H. Aaron, professor of medicine at the University of Buffalo and president of the Buffalo Academy of Medicine, spoke on gastrointestinal illnesses. Nine new members were elected to the society.

Diagnosis by x ray once was considered a black art by the medical profession, Dr. Lewis Gregory Cole, head of the radiography department at St. Agnes Hospital, asserted in a talk before the Rotary Club of White Plains on March 7, at the Roger Smith Hotel.

"When I tried to secure tuberculosis lungs for x ray examination," he said, "a fellow physician called me a quack and a charlatan and refused to let me have them."

That was back in the early 1900s when x ray was still toddling. Dr. Cole recalled he was "thrilled" when he first diagnosed cancer with x rays and realized what an effective weapon against the disease he had at hand.

## Deaths of New York State Physicians

| Name               | Age | Medical School | Date of Death | Residence    |
|--------------------|-----|----------------|---------------|--------------|
| James C Ayer       | 77  | P & S          | March 20      | Manhattan    |
| John I Becker      | 68  | Syracuse       | March 13      | Poughkeepsie |
| Philip F Bernstein | 47  | Syracuse       | March 16      | Brooklyn     |
| Horace D Dow       | 75  | N Y U          | March 16      | Maspeth      |
| Howard P Johnson   | 83  | Hahne          | March 4       | Cortland     |
| Lesser Kauffman    | 62  | Buffalo        | March 11      | Buffalo      |
| George L Megargee  | 65  | Penna          | March 4       | Larchmont    |
| Henry U Robinson   | 55  | L I C Hospital | March 20      | Manhattan    |
| Albert H Rodgers   | 71  | Albany         | March 16      | Corning      |

## AMERICA'S JUGGERNAUT

In the typical American family of three children the probability is that one will be killed or injured in an automobile accident before he has lived out his normal life span, we read in a booklet issued by the Travelers Insurance Company

True, the United States enjoyed in 1938 its second yearly decrease in motor vehicle fatalities in more than four decades of automobile transportation and its lowest traffic death total since the depression years of 1932 and 1933 This record is heartening

But the death total remains far too high No one can feel any complacency about a record which saw 32,000 human lives sacrificed on the altar of carelessness Nonfatal injuries also decreased from the all-time peak record of 1937, but the decrease was relatively much smaller than that registered for fatalities

It seems that exceeding the speed limit was responsible for 39.6 per cent of the deaths and 25 per cent of the injuries Despite a decrease in fatalities in 1938 compared with 1937, the percentage caused by speed went up Almost 94 per cent of the drivers involved in fatal accidents were male and only 6 per cent female More than 84 per cent of the fatal accidents occurred in clear weather, and 77 per cent happened when the road surface was dry More persons were killed on Sunday than on any other day of the week, while the heaviest injury toll came on Saturday More persons were killed between seven and eight P.M. than at any other hour Almost 43 per cent of all victims of fatal traffic accidents were pedestrians Almost half of all pedestrians killed were either crossing between intersections or walking on rural highways

And if you think the moral is to stay at home, other figures show that about as many are killed in accidents in the home as on the highway

## THE EVER-BOILING WITCHES' BREW

Each week the Food and Drug Administration receives up to a hundred communications from butchers, bakers, housewives, automobile mechanics, Indian squaws, and other equally unqualified persons who are interested in marketing a new food or a drug, said Theodore G Klumpp, M.D., Chief Medical Officer of the U.S. Food and Drug Administration, in a recent address Each of them has a desire to get rich quick, or a yen for pharmaceutical experimentation, or a crackpot notion that some weed growing in his garden has medicinal value He related that a short time ago he encountered a box of red pills sold as "Revivo" pills by a Chicago doctor Upon inspection of the pills it was noted that although they were supposed to be the same, there were slight variations in size, and shade of red When analyzed it was found that the package was an indiscriminate mixture of three different kinds of pills one was a cathartic, another was essentially thyroid, and the third contained strychnine When the physician was investigated, it was found that he bought stocks of salvaged drugs from various sources, mixed all the red pills together and called them "Revivo" Another collection of pills of a different color was labeled "Retardo"

"We encountered another drug manufacturer who had had on hand a large stock of miscellaneous salvaged liquid preparations The liquids were all dumped together into a large cauldron, mixed, bottled, and sold as a liniment. The old Food and Drugs Act had no provision for dealing directly with practices such as this In fact, our inspectors don't even have authority to enter the factory to see what's going on I'm glad to say, though, that most manufacturers do not stand upon a strict observance of their legal rights in this respect"

# Hospital News

## Sterilizing the Air in the Operating Room

**T**HE killing of bacteria in the air in operating rooms by irradiation may prove an important addition to efforts for eliminating infections of wounds in clean primary incisions, *The Journal of the American Medical Association* for March 18 says in an editorial.

Pointing out that modern aseptic technique in the operating room has almost eliminated infection of wounds in clean cases, *The Journal* says, however, that the introduction of major surgical procedures involving exposure of large raw areas for a long time has again raised the problem of occasional infection.

"Recently," the editorial continues, Deryl Hart, M.D., of the Duke University School of Medicine, has reported studies during the past five years of efforts to eliminate the occasional sporadic operating room infection. After carefully checking all possible sources of infection, Hart concludes that the least controlled source of infection was air borne bacteria. Most of the infections were caused by *Staphylococcus aureus-haemolyticus*. The organisms entered the wound from the air rather than from the skin of the patient. The air was contaminated by operating room personnel and patients.

### Infection from Operating Personnel

"The personnel of the operating room and the general population were found at times to have *Staphylococcus aureus* in the nose and throat in as high as 78 per cent of the cases. In every case of infection in which cultures of the air had been taken, the organism cultured from the wound was identical with the one cultured from the air during the operation.

"The bacteriologic studies carried on daily convinced the author that the most important source of wound infection was not the bacteria present in the skin but the organisms eliminated from the noses

and throats of the operating room personnel. The wearing of thick gauze masks was not apparently an adequate protection against this source of contamination. To eliminate this source the author turned to air irradiation.

"At the request of the author, special radiant energy apparatus was designed and constructed which answers the requirements. An operating room was equipped with eight of these lamps, each 30 inches long. The author found that it was possible with eight tubes operating to kill a lightly sprayed culture of *Staphylococcus aureus-haemolyticus* on blood agar plates within sixty seconds or a heavily sprayed culture within less than five minutes. Practically all organisms exposed to the radiation from these tubes at a distance of 8 feet from the center of the cluster were killed within less than ten minutes, and at a distance of 10 feet within less than thirty minutes."

### Mortality Cut One-Half

In a series of 132 individual stages of chest operations on fifty nine patients performed in a field of air sterilized by means of bactericidal radiant energy, Dr. Hart was able to report a lowering to one-half of mortality due to infected wounds. There was an incidence of 3.8 per cent of skin infections as compared with 33 per cent in a previous series of 100 similar operations. The incidence of elevation of temperature after the operation was lowered so that more than two-thirds of the patients did not have more than two recorded elevations above 100.4 F. as compared to one third of the patients without radiation in this group.

In a later report Dr. Hart presents an analysis of the results obtained in 132 clean primary incisions and 86 repeated clean incisions out of more than 333 operations performed in field of bactericidal irradiation. The analysis results



that the postoperative infections have been reduced more than 85 per cent. The occasional death anticipated from infection of a wound did not occur. The number of patients with postoperative temperatures above 100.4 F. has been reduced in chest operations from 68 to 30 per cent, in mastoid operations from 46 to 34 per cent, and in hernia operations from 36 to 22 per cent. The number of patients with a temperature above 99.2 F. for more than four days after operation has been decreased in chest cases from 78 to 22 per cent, in mastoid cases from 54 to 21 per

cent, and in hernias from 46 to 14 per cent. There has also been noted a more rapid wound healing, a lessened systemic reaction, and a shortened convalescence.

"The bacteriologic studies carried out by Hart and his co-workers, as well as the practical results obtained, seem to establish that air is an important source of contamination in every operative wound," the editorial concludes. "They demonstrated further that sterilization of the air in the operating room can be accomplished by bactericidal irradiation."

### A "New Heart" for Roosevelt Hospital

Thomas S. McLane, president of the board of Roosevelt Hospital, 428 West Fifty-ninth Street, New York City, announces plans for a \$2,965,000 building to replace sixty-eight-year-old sections of the institution. He said the proposed addition would provide the hospital with a "complete new heart," helping it to meet the "growing demand for hospital care at rates within the reach of persons of moderate means."

The new structure, he explained, would increase the capacity of the hospital by 120 beds, to a total of 507. The increase would be composed chiefly of semiprivate beds and thirty ward beds through the establishment of a maternity service.

"The new project is not designed to replace all the hospital's buildings," the announcement said. "The present modern ward building and the nurses' residence

will be retained. The new building will be joined to the ward building so that its general facilities may be equally available to all patients. The present private patients' pavilion will be remodeled for the School of Nursing, now housed in buildings which will be torn down."

Mr. McLane, who said a campaign to raise \$2,000,000 or more this year would begin on April 11, declared the new building would provide new children's wards, more adequate diagnostic and research laboratories, an enlarged x-ray department, and other facilities.

"In addition to the building," the announcement said, "the program of the hospital includes endowments for the care of the sick, teaching and research, which raise the total to be sought over the next few years to \$5,667,000."

### Record-Breaking Hospital Year

A number of records in hospital service were broken in 1938, it appears from the eighteenth annual presentation of hospital data by the Council on Medical Education and Hospitals of the American Medical Association, published in *The Journal of the Association* for March 11.

For the first time in eight years the number of registered hospitals increased over that of the previous year, births in hospitals passed the million mark, the

number of beds increased 36,832 as compared with the average annual increase of 24,677 beds for the previous thirty years. In 1938, hospitals admitted patients at the rate of one every 3.3 seconds.

The report lists 6,166 registered hospitals having a total of 1,161,380 beds, 56,747 bassinets, 1,026,771 births, an average census of 965,706, with 9,421,075 patients admitted. In addition, there are 136 hospitals opened and their registra-

tion pending, 67 under construction, and 185 planned and being developed

Supplementary to these facilities there are 2,529 institutions, emergency stations, clinics, and cottages designed to give emergency and other auxiliary types of hospital and medical care of which the Council on Medical Education and Hospitals has record

The rate of growth in registered hospitals is equivalent to 1 hospital of 101 beds for each day in the year, Sundays and holidays included

Commenting on the report, *The Journal* says

"The growth of hospital facilities has outstripped the advance in population. The increase of population in the United States from July 1, 1927, to July 1, 1938, was 8.9 per cent. In the same time the beds in all registered hospitals increased 36.1 per cent. The beds in all general hospitals increased 23.2 per cent, in nervous and mental hospitals, 58.5 per cent, and in tuberculosis hospitals, 20.3 per cent. Ratio of general hospital beds to population has increased during these years from 2.9 beds per thousand to 3.3 beds per thousand. Such increases in proportion to population cannot be maintained indefinitely."

### Newsy Notes

An appropriation of \$30,597,393.95 for the New York City Hospital Department, an increase of \$4,240,864.45 over the 1938 allotment, is asked by Hospital Commissioner, S. S. Goldwater as a departmental budget estimate for the 1939-1940 fiscal year.

About half the increase, according to the estimate, is necessary to provide for approximately 1,500 new positions needed to staff additions to the city hospital system and to remedy existing shortages. Mandatory salary increments and "modest increases" for large groups whose wages are admittedly unsatisfactory make up the remainder of the increase asked for in personal service.

Of the total sought for the period beginning July 1, 1939, \$21,081,085 is for salaries and \$9,516,308.95 for other than personal service.

The Broad Street Hospital, New York City, which has been in financial straits and was slated to consolidate with the Beekman Street Hospital, will continue service, it is hoped, under a new plan.

The plan, which now must be submitted to a judge of the court for confirmation, was submitted for the hospital on March 3 by Hughes, Richards, Hubbard & Bw

ing, the hospital's attorneys. It provides that Henry L. Doherty, founder and president of the Cities Service Corporation, shall waive \$1,749,000 in claims against the hospital, that other creditors are to receive 30 per cent of their claims, and that a group of physicians now associated with the hospital will advance \$50,000 without interest, to be used as working capital.

Cooperation between World's Fair authorities and hospital staffs of the city will be required to handle the case load requirements during the Fair season, Dr. S. S. Goldwater, Commissioner of Hospitals, declared yesterday.

"Repeatedly I have been asked what the city proposes to do about the matter of hospitalization for Fair visitors," Dr. Goldwater wrote to Dr. C. W. Munger, chairman of the Greater New York Hospital Association.

"Thus far, no definite steps have been taken."

Dr. Goldwater declared he felt the solution for caring for sick visitors must lie in the further utilization of private hospital facilities because bed occupancy in city hospitals now equals 100 per cent capacity.

The Memorial Hospital in Buffalo has been operating at a loss of \$600 a month, and has been compelled to close

. . .

A committee of the New York State agricultural conference board, meeting in Syracuse, gave its approval on March 10 to extension of nonprofit hospitalization plans into rural communities of the state

Hospital service representatives said the approval will make the plan available to an estimated 155,000 in the Syracuse area alone who previously could not enroll as individuals

. . .

A campaign to raise \$500,000 for the sustaining fund of St. John's Hospital, Brooklyn, has started. The fund is sought for a five-year program to enable the sixty-seven-year-old hospital to carry on its functions without curtailment and to eliminate yearly deficits

. . .

The annual memorial address on March 7 to commemorate the life and deeds of Dr. Henry W. Frauenthal, founder of the Hospital for Joint Diseases, in New York City, was given by Dr. Charles Rosenheck

. . .

More than fifty fellow doctors, including the entire staff of St. Francis Hospital, gathered at a testimonial dinner in the dining hall of the hospital, 142nd Street and Brook Avenue, the Bronx, on Febru-

ary 21, to honor Dr. John Dorning, 124 W. 81st Street, physician-in-chief of the hospital, on the completion of fifty years' service to the institution

. . .

A committee representing the voluntary hospitals, headed by John W. Davis, is asking the New York City government to adjust the rates paid for the care of indigent patients. The maximum paid by the city is \$3 a day, while the cost to the hospitals is \$5.53

. . .

Hospital officials of Herkimer, Ilion, and Little Falls are acting to eliminate a serious condition which has arisen over welfare patients' accounts and which threatens to become a peril to their financial structure. They announce more than \$10,000 is due from the county for care of patients treated between 1932 and 1939

. . .

A recent item in this department erroneously located the excellent Columbus Hospital, of Buffalo, in New York City. A courteous note from the Medical Director, however, reveals that it is still there. May Buffalo long continue to receive its ministrations. It is building a new \$100,000 addition, with three operating rooms equipped with the latest facilities, new electric elevators, and modernly furnished private and semiprivate rooms. The capacity of the hospital will be increased to 150 beds.

## At the Helm

These hospital officials have been chosen

Mrs. E. J. Ashwell, to be president of the managers of the W. C. A. Hospital at Jamestown, re-elected

Dr. Ray Palmer Baker, to be president of the corporation of the Samaritan Hospital at Troy, re-elected for the fifth term

Frank N. Clinton, to be president of the directors of the Peekskill Hospital, re-elected

Dr. Edmund D. Colby, to have charge

of the Schenectady County Hospital

Dr. Henry C. Courten, to be president of the medical board of the Queens General Hospital

Dr. Harry S. Fish, to be president of the staff of the Tioga County Hospital

Milton J. Fletcher, to be president of the Chautauqua Region Hospital Service Corporation, re-elected

Robert G. Hamkin, to be president of the trustees of the Amsterdam City Hospital, re-elected

# Medicolegal

LORENZ J. BROSNAN Esq.

Counsel Medical Society of the State of New York

## A Physician's Fee

**R**ECENTLY an Appellate Court in California handed down an interesting decision in a case involving a dispute between a physician and a well known motion picture actor with regard to the amount of the fee for professional services.\*

The plaintiff in the action was a physician who had been practicing his profession for about seventeen years, and at the time in question was practicing in a town of about 3,000 population. In June, 1936, he was called to attend defendant and found him to be a very sick man, suffering from bronchial pneumonia. According to the testimony on the trial, the patient also suffered from polyneuritis and Paget's disease and had been in the habit of consuming a quart or two of whiskey every twenty-four hours. His age at the time was fifty six years. Hospitalization was advised and agreed upon, and arrangements were made that the plaintiff physician would go with the patient to the hospital and remain there as long as the patient, and remain in charge of the case if consultants were called.

The patient was taken by ambulance to a hospital where he remained under the care of the doctor for nearly four weeks. During that time specialists in diseases of the chest and pneumonia were called in as consultants.

During that time the doctor occupied the room adjoining that occupied by the defendant and was in more or less constant attendance upon him. Upon the trial the plaintiff testified that his patient left the hospital cured of the pneumonia. It seems, however, that when he did leave the hospital he entered a sanitarium where he remained for a considerable period of time.

It seems to have been agreed upon at the trial that when the patient entered the hospital under the care of the plaintiff he had a very slight chance of recovery from pneumonia, considering his age, and less chance because of his drinking habits and his affliction with polyneuritis and Paget's disease.

The plaintiff brought an action against the defendant to recover the sum of \$12,000 which he alleged to be the reasonable value of the services rendered. The trial resulted in a verdict in favor of the doctor for the full amount sued for.

The defendant appealed, contending, among other things, that the Trial Court had improperly ruled upon the admission of proof, in that improper testimony concerning this earnings had been allowed, and urging that the Court had improperly refused to permit the physician to be examined as to customary charges made by him to other patients.

The Appellate Court reversed the judgment appealed from, saying in part in the opinion:

Testimony tending to show a patient's ability to pay is admissible. The value of professional services rendered by physicians is not a subject of general knowledge or within the scope of judicial notice. Proper proof as to the value of a physician's services requires evidence of those familiar as experts with such work in a particular locality. A physician is entitled to recover the ordinary and reasonable charge usually made for such services as he has rendered by members of the same profession of similar standing. There is a difference between ability to pay and annual net income. However, annual net income may be in such an amount that, when related to the amount claimed, proof thereof would establish

\* *Citrin v. Fields*  
85 Pac. 2nd 634

the ability to pay the claim. Usually, annual net income is evidence only of ability to pay, and, therefore, as one element to be properly considered in the matter of determining what is the reasonable value of services performed. Fixing the value of services must be in the light of other elements than ability to pay, such as professional standing, capacity, and reputation of the person performing the services. In other words, his capabilities as measured by all of the elements that go into the demand for his personal services must be taken into consideration, as well as the difficulties of the problem presented and the amount of time necessarily occupied in the consideration thereof, etc.

"As can readily be seen, one who has just been licensed to practice could not have established within a community public opinion or demand for his services that would justify a charge equivalent to a charge that would be made by a Mayo, although he might in a given instance prescribe the same treatment and direct the same care of the patient. Nor could a surgeon who was performing his first operation be considered to have demonstrated his capacity to justify a fee therefore in an amount equal to one of the outstanding surgeons of the world, although the results of such operation might be entirely satisfactory.

"Furthermore, when a doctor possesses a rare gift in the matter of professional accomplishments and the demand for

his time and services becomes very great he is entitled to a greater compensation than as though such were not the fact. All of the elements that go into fixing the reasonable value of services must be considered by an expert in expressing an opinion relative to the reasonable value of the professional services performed. Respondent was a general practitioner, with no special training or experience proved in treating pneumonia.

"The professional standing of the respondent was one of the elements properly to be considered in determining the reasonable value of the services rendered. The earnings of the respondent and his customary charges were also proper subjects of inquiry to aid in determining his professional standing and the reasonable value of the services rendered. We think the testimony as to the earnings of the respondent and his customary charges during a reasonable time prior to the rendering of these services should have been admitted. The sustaining of the objection was prejudicial error.

"We regard these errors of refusing reasonable cross-examination of respondent on the financial returns from his practice and his usual charges as most serious, in view of the very large judgment given him which must shock the conscience until supported by more substantial evidence than now appears in the record."

---

The Annual Spring Clinical Day of the Alumni of the Medical School of the University of Buffalo will be held April 22, 1939, at the Hotel Statler, Buffalo, New York. The list of speakers who will appear on the program, which begins at 8:30 A. M., is as follows:

Dr. Elmore B. Tauber, Professor of Dermatology, University of Cincinnati, Cincinnati, Ohio; Dr. Horton Casparis, Professor of Pediatrics, Vanderbilt University, School of Medicine, Nashville, Tennessee; Dr. Edward H. Dennen, Clinical Professor of Gynecology and Obstetrics,

New York Polyclinic Medical School and Hospital, New York City; Dr. Harry E. Mock, Associate Professor of Surgery, Northwestern University Medical School, Chicago; Dr. E. Perry McCullagh, Director of Department of Endocrinology and Metabolism, Cleveland Clinic, Cleveland, Ohio; Dr. David L. Thomson, Professor of Biochemistry, McGill University, Montreal, Quebec.

At 7:00 P. M. the Annual Dinner of the association will be held in the main ballroom of the Hotel Statler.

# Across The Desk

## Truth Remains Truth Across the Years

PEOPLE are making a mistake if they think that socialized medicine is something new in our politics. A little rummaging among the medical essays and addresses of years ago reveals that it was all threshed out decades back, and its fatal weaknesses were made perfectly clear. And, what is of special interest this month, one of the most fearless and logical indictments of socialistic medical schemes was made by the then retiring president of the Syracuse Academy of Medicine, who now happens to be just closing a successful and distinguished year as president of the Medical Society of the State of New York—Dr William A. Groat.

It was nineteen years ago, on January 6, 1920, to be exact, that he reminded the medical academicians of his home city that our democracy guarantees us life, liberty, and the pursuit of happiness, in that order, so that life, or health, comes first, and the socialistic wonder workers, in their roseate, or pinkish dreams of pursuing happiness, have no right to play hob with the health of the rest of us. The language was on a higher plane, but the underlying brass tacks, in our ruder verbiage of today, had the same points.

### Picture Tells the Story

Another pungent statement that 'leaps to the eye,' as the British say, is his remark that "health preservation is a fundamental requirement of a successful government." Either the calendar is wrong, or that was about twenty years ahead of the much heralded declaration that the health of the people is a prime concern of the government—not a new idea, then, after all. And Dr Groat drew a sharp distinction. He said that 'health preservation' was the business of the government. The government, with its splendid Public Health Service, has infinite possibilities in the field of preventive medicine

to preserve health, but it can never be the physician. "The sympathetic, somewhat sentimental, care of a physician, the sustaining presence of a trusted acquaintance, will always be required. If he is without sympathy or sentiment, he is not a physician. The State cannot become a sympathizing friend," said Dr Groat.

There is the picture, clean-cut as an etching by Alma Tadema, that shows at one glance why the impersonal physician of a socialistic machine can never take the place of the family doctor at the bedside of the sick, and its lines were sketched nineteen years ago. Truth remains truth across the years.

### Two Points Are Clear

Two more points rise as one reads this fine address. First, it is evident in every paragraph, every line, that the speaker is merely saying what seems to him self evident from his rich experience as a doctor. He speaks, as a medical man to medical men, what lies in the knowledge of speaker and listener alike. What is founded in universal medical experience is based too deep to be shaken by the winds of politics.

Next, it is no mere coincidence, no accident, that the best minds in medicine are taking the same line today. Why? Because the personal relation between doctor and patient is as vitally essential today as it was nineteen years ago, and as indispensable as it will be nineteen, ninety nine, or nine hundred years from now. Bring this basic fact home to the mind of the great public, and machine-made medicine will have no more chance than a snowflake in the Sahara. The truth is mighty and shall prevail.

On the following pages is Dr Groat's splendid address of nineteen years ago. Every word of it is worth reading.

## "THE INTEREST OF THE STATE IN THE HEALTH OF ITS CITIZENS"

By William A Groat, M D  
Syracuse, N Y.

*(Address of the retiring president, Syracuse  
Academy of Medicine, January 6, 1920)*

Before directly discussing this topic, it may be well to recall that the State or government of which we shall speak, our own, is a democracy. It is a representative democracy, and it was erected on the foundation principles of individual rights. The individual was declared to be entitled to life, liberty and the pursuit of happiness. The government was set up to insure these individual rights. It was calculated to safeguard his life, maintain his liberty of action and grant him opportunity to pursue happiness in his own fashion. It does not, by the way, assume to grant him happiness. Merely the right to pursue it, to obtain it is his own business. These guarantees, however, are equally bestowed. That all men are created equal was likewise declared. One man's life is not to be protected by the legal sacrifice of another. One man's pursuit of happiness must not be at the expense of a fellow's. Life, liberty and the pursuit of happiness are grouped. If there is any precedence, however, it is in the order in which they appear. Surely, therefore, the pursuit of happiness by one, or by the many, must not interfere with the health of another.

These are the great warranties of our constitutional government. They are to be put into effect by laws in accord therewith, such laws being made by representatives who are supposed to carry out the wishes of their constituents. Contrasting with this type on either side are two extreme types. First, the autocratic with its paternal care, now practically obsolete, in which there are no constitutional rights. The life, the liberty and the happiness of the individual come from what he is permitted or told to do.

On the other side, the socialistic. Here

we find as certain and complete loss of personal liberty and individual responsibility as one could wish. Individual property rights, the rights and the responsibilities of family, and the right to work or study for one's own benefit, seem to disappear into a common pool, supposedly for the common good. I am not speaking of anarchists, of bolsheviks, of I W W's. These are also despots. I am speaking of the theoretical socialist ranging from parlor to auditorium size, but scarcely larger. This incomplete and superficial discussion of governments would be out of place as my preface, were it not that, in a consideration of the interest of the State in the health of its citizens, one must touch upon various paternalistic or socialistic plans which some clean thinking, but not clear thinking people wish to have added to and enforced by a constitutional democracy. The fundamental interest of the State in the health of its citizens is that the State is to be perpetuated, defended and expanded, and that health and reproduction of a healthy race are the means to that end.

Governments have shown great and tremendously increasing interest in general education, the fundamental reason being similar—an intelligent citizenry is necessary for the perpetuation, defense and expansion of a government. Public health education is of equal importance, touching both.

The development of State medicine has been largely along a line perfectly sound, but of secondary status—that of public safety. It has developed defenses against epidemic disease as a method of protection superficially of the individual, but deeper of business, and deeper still, the development of the State and the conservation of defenders. It has developed along charitable lines. The State assumes care of the indigent sick, theoretically, at least, as a charity. It assumes almost wholly the care of the mentally incompetent. It looks to the health welfare of its citizens in a variety of ways not ordinarily associated in our minds with

State medicine, child labor, street cleaning, garbage removal, sewage, and the like, are all touched by, or touch upon, public health principles

As to treatment of disease, our New York State Department of Health has, ostensibly, at least, kept clear, except on a charity basis. As to diagnosis, it has kept to the so-called contagious diseases within the domain of public safety, except for certain laboratory methods which might be considered as a beginning

The interesting situation, directly my thoughts to this topic, however, is that brought out by the discussion of the health insurance legislation among medical men, the attitude of the State department of health to that legislation, and the proposals said to have been made by the State department to the committee of the State society appointed to consider the matter of health insurance.

There is proposed the alternative of developing medicine along one of two lines—either along the line of so-called health insurance or of State medicine. The former has been frequently discussed and at great length. The objection to it, its false basis and still more erroneous theories as to benefits granted, have been clearly put before you. You understand them as well as I. What I want to emphasize is that this unwieldy, expensive, and unproductive plan is the natural result of an attempt to adapt socialistic theories to everyday conditions, little by little, and bit by bit, beginning with the practice of medicine, such action requiring the making of laws by a democracy to enforce socialistic measures—a wholly ridiculous situation.

That the health and welfare of the populace may be greatly improved we as physicians know. That the State is indeed interested in the health and welfare of its citizens on a purely selfish basis, I believe is also clear. There is no need to arouse public sentiment by mawkish appeals for the downtrodden or submerged. There is need to arouse public opinion to the fact that public health pays, that health preservation is a fundamental requirement of a successful government.

Public sentiment and public opinion are not synonyms. A very good illustration of the necessity to a State of a sound public health policy is the fact that neglect of public health measures by either side alone in the World War would have brought it to disaster.

How should State medicine be expanded? Should it invade the field of medical practice, do general or special diagnostic work, or treat all the sick as a matter of public safety? If this would be for the public good, I would say yes, but I do not for one moment believe it would be. I do believe that there is a distinct tendency in that direction and that that tendency should be opposed. The reason for objection is not a selfish one. It is a practical one, a scientific one.

The important, the attractive, the productive side of medicine today is the prevention of disease, not the curing of it. It is impractical, expensive and unscientific for the State to start curing disease, or even to spend time studying how to cure disease until it has used its energies and its powers to prevent disease. That the State should so decide and so devote its energies is confirmed by the fact that the State is so selfishly concerned. The State has a right to be selfish. Its existence depends upon it. This, of course, is by way of argument only. The State can also afford to be lenient, forgiving, helpful, kind, but not weakly sentimental.

Prevention of epidemics and control of contagious disease is but a part of preventive medicine. The energies of the State must be more widely expanded. It is a question whether epidemics can ever be wholly eradicated until the peoples of the world are thoroughly homogenized, and perhaps not then. There are more important problems which, when solved, will yield greater fruits. The State should till the untouched fields and give proper cultivation to those already cleared but sadly neglected. The problem of prenatal care and birth control may be well appreciated by France. Premier Clemenceau urges large families to save France. Child hygiene, nutrition, dental hygiene



are now taught in the schools, but in the main imperfectly

Industrial hygiene and welfare should be a constructive study and movement to eradicate the evils and place responsibility where it belongs, rather than to compensate, in part only, for damage done. Waterways need not be polluted, breathing places and beauty spots need not be overrun, dust, noise and confusion are not essential to industrial progress. The venereal problem is not simply a disease problem. The free clinic for tuberculosis does not lay the dust in the pottery plant. Killing half the flies covers no cesspools. The only A B C's that influence malnutrition are the kind they put in soup.

There will always be sickness, disease, epidemics and parasites, if we get rid of what we have there will be new ones. The nurseryman who plants under glass, free to prune away, uproot, burn, spray and handpick at will, with quarantines far more rigid than any against human exchange, has disease to treat, scientific specialist though he is.

The frailties of human nature, the inherited and acquired weaknesses, will never be bred out. The sympathetic, somewhat sentimental, care of a physician, the sustaining presence of a trusted acquaintance, will always be required. If he is without sympathy or sentiment, he is not a physician. The State cannot become a sympathizing friend. The objection to a department of health under which all health activities, direct and indirect, are collected is the charge of paternalism, the invasion of personal rights, the loss of individualism. The objection appears not to be sound so long as preventive medicine alone is implied. The only objection to an autocrat is the fact that he may at times be wrong. The objection to communism is that the multitude seldom know what is right.

A certain amount of autocratic power under control and advisement is perhaps most practical. I am reminded of the man who had objections to the autocratic control of a business by another, overthrew him and assumed control himself. Soon it appeared to those under

him that he had a rather individual way of running things. They charged him with it and twitted him of the fact that he had objected to the same tendency in his predecessor. "True," he replied, "He ran things to suit himself and we kicked him out. But don't get the idea that I'm not going to run this to suit myself, the only difference is, I'm going to run it right."

There is much clear commonsense in that remark. There was considerable fear that the doctor would interfere with the art of war in 1898. Relegating him to the rear spoiled a perfectly good war. His greatly increased responsibilities and prestige, the multiplication of his numbers and his duties in the armies of the World War, gave vast returns in effectiveness and lessened wastage.

To the layman, the advocacy of disease prevention is, for the doctor, the limiting of his activities and the loss of business and prestige. The doctor has been glorified as the only one who is laboring to make his own services unnecessary. But this is not strictly true. As in the army, the use of preventive medicine as a State medicine or as an independent thing increases the scope and importance of medicine, opens new fields of thought and influence, calls for increasing numbers who must be scientists and educators. We may now reach that pinnacle where it will be considered worthy of a larger fee to protect an appendix from disease than to remove it! In any event, the subject of preventive medicine is inspiring and attractive, the prospect a bright one.

Therefore, let us have a national department of health for the principal reason that the nation's welfare demands it. Let the activities be along the broad educational lines of preventive medicine. Let it cooperate with the States and let them win back and take over the indirect and secondary health activities now scattered among bureaus, commissions, and boards which have no true scientific interest therein. Let it teach how to breed, feed and develop the child at least as well as the agricultural department teaches animal husbandry, and show

the cash values so created. Let it show from its seat in equality the value of health counsel to every other department of government. Let it teach the employer that unhealthy surroundings and improper requirements breed sickness, and sickness and the resulting labor turnover mean economic loss, and show him the cost, to him, in dollars and cents.

Teach the worker, he who labors with brain or hand, that his health is his greatest asset, that properly directed work is beneficial and brings prosperity, and prosperity happiness.

Teach that the human machine, like any other, requires frequent inspection, proper care, and lasts longest when kept at work under normal load.

Let it support medical education and medical investigation, and openly fight quackery. Let it carefully avoid undermining a people by relieving individual responsibility or antagonizing family ideals.

Let it direct its charities along broad lines, but on business principles, charity should give strength rather than breed weakness.

And, finally, let the medical profession measure and judge departments of health by what they accomplish for preventive medicine and public health, not by what they do for the profession. It will gain in the end.

*Reprinted from the New York Medical Journal for April 10 1920*

## BOILABLE AND UNBOILABLE INSTRUMENTS

Could the surgical instruments of the 'horse and buggy days' withstand boiling? Dr S. J. Banker of Fort Edward, who began practice in 1879 said in a letter printed in these pages on March 1 that in those days no instruments were ever so honored as to be boiled. Most of the instruments were made with hard rubber handles and would have been twisted out of shape if boiled.

This draws a reply from Dr Henry Wallace of New York City who began practice in 1890. He writes:

I remember well my Elliot Obstetric Forceps, purchased from the venerable house of George Tiemann were made with hard rubber handles and withstood boiling. This was in 1880. I also remember having a little later some beautiful knives which had belonged to my father set in metal as they were made of the marvelous steel made by Young of Edinburgh.

Of course wooden handles would be ruined. "The matter interested me so much that I wrote to George Tiemann & Co for some information as to when hard rubber handles first appeared and I take pleasure in forwarding the reply to you."

The letter from Tiemann & Co is interesting. It runs: During the Spanish American War and just prior to that, a great many of our sur-

gical instruments were supplied with hard rubber handles. This was about 1898.

Immediately thereafter and about 1900 hard rubber handles were in disfavor and consequently we started supplying our instruments made in either one piece or with metal handles attached.

The process by which the hard rubber handles were attached to our instruments was by vulcanizing the plastic stock directly to the steel shank of the instrument. This process made it possible to sterilize the instruments by boiling without having the handles become detached. Previous to that when instruments were made with ebony or bone handles the process of boiling would very soon damage the handles whereas the hard rubber attached as we attached them would stand indefinitely.

At that time there were many firms who would attempt to attach hard rubber handles by cementing them to the steel. This process was not good since the handles very soon became detached from the steel.

As you state in your letter there were numbers of cases where surgeons wished to retain their old knives and consequently had metal handles attached to those that previously had hard rubber handles.

nothing under compulsory health insurance should study the schedules of contributions under these two bills. The worker earning \$19 a week would pay only \$9 88 a year, it is true, but let us examine some of the other figures. Salaries of \$39 a week would be taxed \$40 56 annually, salaries of \$59, \$92 04. In addition, all three groups would have to pay their share of the state's and industry's "contributions." Obviously, not the rich, but the thirty- and forty- and fifty-dollar-a-week workers would make up the deficit growing out of the delivery of complete medical care to the lowest income class for \$10 a year.

Enactment of either the Wagner or the Boccia bill would deliver a fatal blow to the development of an efficient, inexpensive system of medical care in this state. Either one of these measures would immediately impose upon New York medicine the conditions that have stultified European panel practice and reduced medical care in insurance countries to a uniform level of mediocrity. The profession should immediately communicate its overwhelming opposition to these bills to the legislature at Albany.

### Need for an Institute of Forensic Medicine

Forensic medicine has, until 1932, received but scant attention as a branch of medical practice that renders an important public service. It was in this year that the first chair in legal medicine in this country was established at the Harvard University Medical School. We like to feel that this first advance was largely the result of the activity of the Committee on Public Health Relations of the New York Academy of Medicine. It succeeded in abolishing in Greater New York the familiar "coroner system" which, unfortunately, is still in almost universal use throughout our country. One of the most instructive treatises on the scope of forensic medicine, and one that makes delightful reading, is that by Dr. Harrison Stanford Martland which he so intriguingly entitles, "*Dr. Watson and Mr. Sherlock Holmes*."

After first whetting our appetites by dissecting carefully our favorite detectives in fiction, and the reliance of their creators upon a coroner's verdict to throw the reader off the scent, he then clearly depicts the evils of the "coroner system." It is simple to pack a coroner's jury, for the coroner, rarely skilled in legal medicine, may at times be persuaded to supplement his incompetence with venality. It is this that is largely responsible for the prevalent attitude of the general public which looks down upon the coroner's physician as a politician who is not immune to graft. For this reason, reputable physicians have avoided specialization in this field of medicine be-

cause they realized that a career in this work was wholly dependent upon "politically minded" coroners for whom qualified men represented, in the main, a hindrance. In many parts of our land the law does not clearly define the right or duty of a coroner to perform an autopsy, and under such circumstances he and his designated physician may become subject to civil suit.

Under the "medical examiner system," the right to perform an autopsy rests solely with the medical examiner's office and so the performance of a postmortem examination need not be influenced by the fear of an action for damages. This is an important point, because in both Newark, New Jersey, and in New York City, one fifth of all the deaths are responsible to the medical examiner. Of this fifth, only 3 or 4 per cent are homicides, 8 per cent suicides, and 25 per cent are accidental deaths due to falls or automobile accidents. But in addition to these causes of death it is the duty of the medical examiner to investigate all deaths resulting from *occupational accident and disease*. Under the "coroner system" no attention is paid to these. Furthermore, sudden deaths resulting from unknown causes, which occur most frequently after forty five years of age, are medical examiners' cases. Martland\* makes a pertinent observation, based upon his experience as a medical examiner, which an experimental pathologist could never make—namely, "that in ten cases of sudden death—seven die as a result of organic heart disease—one too old, acquired syphilis—one caused by old lesions of rheumatic heart disease."

It seems to us that our legal medical men are furnishing invaluable aid not only in the detection of criminals, but in the pointing out of industrial hazards of certain chemicals used in manufacturing, and from their practical experience with accidents and sudden death are giving us information that we can use to insure a normal span of life to all of us. His plea for an Institute of Forensic Medicine in New York City is ably supported by his brief. *The New York State Journal of Medicine* is whole-heartedly back of him.

### The Dog Situation

In New York City particularly, the dog situation has reached such serious proportions as to require especial attention by the health department. The large dog population, estimated at 400,000 licensed and strays, has placed upon the health and police authorities responsibilities, the administration of which involves a great deal of money. Despite rigid regulations concerning muzzling and leashing,

\* Martland, H. S. *Landmarks in Medicine* laity lectures of the New York Academy of Medicine, D Appleton-Century Co. N. Y. 1939 p. 83

there were, in 1938, more than 27,000 reported incidents of injuries due to dog bites, and probably many more occurred that were not reported. In the same year, 93 people were bitten by rabid dogs, and 2,504 were given antirabic treatment.<sup>1</sup>

This has stimulated a great deal of interest in the possibility of controlling the spread of rabies by the vaccination of dogs. The Rockefeller Institute is at present conducting an investigation of this problem under the direction of Dr. Webster. He has been able to demonstrate that a successful prophylactic vaccination is possible, but as yet no material is available for the practical application of such immunization. Furthermore, all evidence seems to point to the fact that the commercial vaccines against rabies are, as a whole, ineffective. There is an imperative need therefore for a more stringent enforcement of the existing laws concerning the restraint of dogs in our communities. With school vacations approaching, doctors should caution their patients concerning the dangers of permitting their house pets to go outdoors except on a leash or with a muzzle.

### The Past President—Dr. William A. Groat

The passing administration of Dr. Groat has been one of change and progress. It would take us too far afield to detail the accomplishments of the administration. Suffice to point out the general satisfaction that has greeted the new format of our *JOURNAL*, and the fact that the Society is now publishing it. The legislative work, the continuing educational program, the improvements in Workmen's Compensation—all have progressed satisfactorily. Many intricate problems having medico-economic implications are under study and development. Every member should read and ponder the annual reports of their officers and committeemen, for it will give a comprehensive picture of what the State Society has done under the calm leadership of Dr. Groat.

He leaves the high office that he has graced, with added friends and with a fine record of achievement.

We who have worked with him hope he will long be among us to advise and guide. His rich experience and maturity of judgment provide a source from which we can also draw good counsel.

<sup>1</sup> Annual Report, N Y Academy of Med (1938), p. 54





*Photograph from Blank & Stoller*

TERRY M TOWNSEND, M D

## President Townsend

In Dr Terry M Townsend, the Medical Society of the State of New York has a president who can be relied upon to defend with equal vigor the best interests of the profession and the public health. The present critical state of medico-governmental relations demands a high degree of patience, administrative ability, courage, and tact in those called upon to guide the course of organized medicine. Dr Townsend possesses all of these qualities to an unusual degree.

Born in a small Indiana city, educated in Louisville, Kentucky, Dr Townsend came to New York City in 1899 to start practice under the tutelage of the late Dr Ferdinand C Valentine. His metropolitan experiences were superimposed upon the background of a small-town boy, an invaluable combination for the leader of the Medical Society of the State of New York, who must understand the variegated problems of rural as well as urban practice.

Dr Townsend soon made a mark in his chosen specialty of urology, in which he was one of the pioneers. One of the founders of the American Urological Association, he served as its treasurer for its first three years.

Other organizations also recognized his executive and personal gifts and demanded his services. Years of work in the Medical Society of the County of New York, culminating in the presidency, gave him valuable preparation for his career in the State Society, which he has served as president of the First District Branch, as delegate to the A.M.A., and in other positions leading to his present office.

The executive duties of an organization like the Medical Society of the State of New York demand heavy sacrifices of the president and other members of the administration. Private practice, family life, and nervous equilibrium all suffer under the pressure of unceasing tasks and responsibilities. The membership faces the year to come in full confidence that Dr Townsend and his associates will not fall short of the demands made upon them, that they will bring a full measure of effort, ability, and good humor to whatever problems they are called upon to face.



## Current Comment

"The entire state membership must keep constantly awake and aggressive as to all medical matters of legislative importance, if they would accomplish anything during this session of the legislature " *The St Louis County Medical Society Bulletin* of April 7, 1939, states that "We Must Be Aggressive," and what holds true for the doctors of Missouri certainly applies to those in New York State

. . .

"Both democracy and a very high standard of material living for all are new Man is by nature desirous of possession but he will not work for it if he can help it He looks more to what he sees in immediate prospect rather than to the ultimate good of himself, his family, and his group A man who does not bother to educate himself, who wants easy money regardless of how he gets it or of the consequences to others or himself, who declines to work if he can be supported by somebody else, who thinks he has a right to all he wants, is not likely to be successful, and neither is the democracy successful which encourages this parasitic attitude toward government.

"Democracy can be sustained only by concentrating on the progress of the initiative and effort of the individual for the advance of civilization The machinery of government works for its own destruction when it takes liberty from the individual

"The biological principle of the survival of the fittest is why dinosaurs do not inhabit the globe today, and no matter how much the individual is impeded in his progress by the necessity to drag his neighbor along with him, the principle still holds and will continue to apply to the governments of the future as it has in the past This principle may be opposed and modified temporarily by a generation of men, correspondingly retarding civilization, but it will survive long after a

better form of government has supplanted even a democracy"—Ernest L Shore, M D, who claims that "Man is Fallible," in the *West Virginia Medical Journal* of recent date

. . .

"A social worker is a broker between two kinds of human delusion He (or she) collects money from those who believe that they are generous, and disburses it (less a fair commission) among those who believe that they are deserving Unquestionably, there is progress The average American now pays out almost as much in taxes alone as he formerly got in wages"—H L Menden's "Thoughts on Current Discontents" in the April *American Mercury*

. . .

"Over in good old conventional England when one speaks of 'The Doctor' one refers to a highly educated practitioner of general medicine who diagnoses and advises The doctor in London does not as a rule practice surgery The surgeon is referred to as 'Mister' But over here in the land of the free, things are different 'The Doctor' in America is almost anyone from a third-rate horse drencher to the most celebrated member of the Mayo Clinic"—From the *Utah Medical Journal* of recent date

. . .

" the senator who fathered the National Labor Relations Board now makes the following optimistic statement 'We must take occasion now to conquer this last remaining frontier of social security in America' We cannot credit the senator with conscious irony in mentioning as this so-called frontier, *national health*, the single phase that has throughout the 'depressions' and 'recessions' since 1930 consistently shown almost spectacular improvement " From an editorial on "The Incurable Optimist" in the *Pittsburgh Medical Bulletin* of March 11, 1939

# A RAPID BEDSIDE TEST FOR MEASURING SEDIMENTATION RATE

EMANUEL GOLDBERGER, M D , New York City

(From the Department of Medicine Open Division Kings County Hospital Brooklyn)

IF DROPS of blood obtained by pricking the finger tips of different individuals be placed on inverted glass slides, the slides righted, and the drops allowed to clot and dry spontaneously, the films, when examined macroscopically by holding them to the light, will show an interesting phenomenon

Some films will give the appearance of a uniform, coarse meshwork In others the detail will be fine and there will be a concentration of red cells in the center In all, four main types may be distinguished (Figs 1, 2, 3, and 4)

The character of the film depends on several interacting factors

- 1 Degree to which the red cells settle (sedimentation rate) before clotting occurs
- 2 Coagulation time.
- 3 Degree of agglutination of the red cells (rouleaux formation)
4. Rate of drying of the film

Under ordinary conditions, the rapidity of drying is unimportant.

The rate at which the red cells settle is directly proportional to the degree of their rouleaux formation<sup>1</sup> Thus a slow rate will produce a film fine in detail and uniform in the distribution of the cells (Fig 1), whereas, with a rapid rate, the rouleaux will be large and the general appearance of the film that of a coarse meshwork (Fig 4)

If the coagulation time be rapid compared to the sedimentation rate of the cells (rapid coagulation time, or slow sedimentation rate) there will be a tendency for the cells to be drawn to the center of the film In actual practice, variations from the normal with respect to coagulation time are found in the direction of slower, not faster, rates Thus, the picture described is seen with slow sedimentation rates (Fig 1)

A very slow coagulation time will merely cause a more uniform distribution of the cells

In short, then the character of the film may be said to depend directly on the sedimentation rate of the blood

A study of a large series of these films comparing the readings with the actual sedimentation rate determined by a modification of the Linzenmeyer<sup>2</sup> technic\* gave values summarized in Table 1

| TABLE 1             |                              |
|---------------------|------------------------------|
| U.SPREAD BLOOD FILM | AVERAGE SEDIMENTATION RATES* |
| +                   | One and a half hours         |
| ++                  | 45 minutes                   |
| +++                 | 25 minutes                   |
| ++++                | 18 minutes                   |

The criteria for reading the films are as follows

- 1 Fineness or coarseness of general detail
- 2 Character of meshwork, if present
- 3 Presence or absence of central agglutination
- 4 Presence or absence of peripheral ring (Figs 3C and 4B)

With this in mind, the four groups may be described as follows

+ Normal, very fine detail, no meshwork, gradual transition from periphery to dark central agglutinated mass (Fig 1)

++ Moderately rapid, the detail is somewhat coarse but uniform throughout. Meshwork not noticeable particularly there may be the beginning of a central agglutinated mass (Fig 2)

\*Modified Linzenmeyer Technic. A 5 mm bore tube calibrated to 6, 12 and 18 mm. is used. Add 0.2 cc. of 2.6 per cent sodium citrate to the tube. Withdraw blood from venipuncture and add the blood to the citrate in the tube until the 1 cm. mark is reached. Invert the tube three times to mix blood and citrate. Let the tube stand and note the time it takes for the red cells to settle to the 18 mm. mark

†Only about 3 1/2 per cent of the sedimentation rate readings according to this technic fell within the range of 30 to 40 minutes.

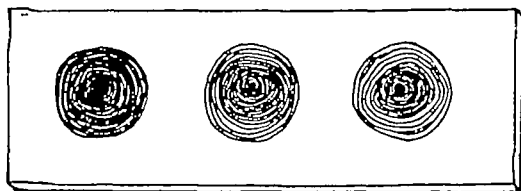


FIG 1 The film shows very fine detail, no meshwork and with a gradual transition to the concentrated mass of red cells in the center \*

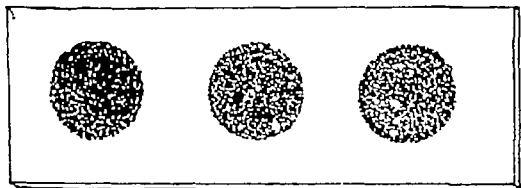


FIG 2 The detail is coarse and uniform meshwork not particularly noticeable \*

+++ Rapid, coarse detail, the meshwork fine but easily observed, no central agglutinated mass (Fig 3)

++++ Very rapid, very coarse detail, definite meshwork, no central agglutinated mass (Fig 4)

Variations within each group will, of course, be found, but with a little practice in comparing the results with values from the quantitative test a surprising accuracy of prediction, correct within a few minutes, can be obtained

### Technic

1 Clean the finger tip with alcohol and dry with a sterile gauze

2 Prick finger tip with needle (I use a No 19 gage Wassermann needle to insure a fairly large drop)

3 Gently express a small drop of blood (about 3 mm in diameter)

4 Touch it with the flat surface of a clean glass slide to produce a drop on the slide (about 5 mm in diameter) I employ the practice of getting several drops of slightly different sizes on the slide, expressing more blood from the puncture wound without wiping away the residual blood after each drop is taken The

\* For the sake of clearness the blood films were drawn proportionately larger than the glass slides

reason for doing this is that if the blood on the finger as first expressed be small and globular in character, the first film produced will be thickly rimmed (Figs 3C and 4B), which distorts the picture somewhat, whereas successive films will show a uniform distribution

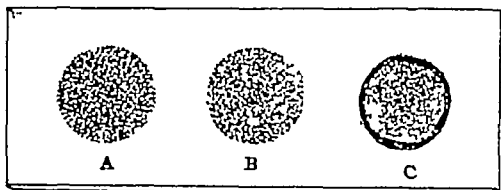


FIG 3 The meshwork is becoming prominent \*

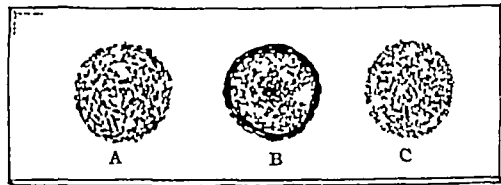


FIG 4 The film presents the appearance of coarse meshwork \*

5 Right the slide and let the film clot and dry spontaneously in the horizontal position (I tried angulating the slide while the films were drying, but the results did not justify the use of this procedure)

6 Observe macroscopically when dry, by holding the slide to the light, note the type of film The slide may now be filed for future reference

It should take from five to seven minutes for the film to dry Smaller or larger drops may take longer

The red blood count of the patient has no influence on the character of the film

### Discussion

It is not my intention to imply that the test described above be used to supersede regular methods of sedimentation rate Its place lies not so much in the hospital or research laboratory where facilities are at hand for complicated procedures, but rather in the office and at

the bedside where a simple and inexpensive and quick test requiring no special tubes, solutions, no syringes, and no graphs is of distinct value. Not only is my test of diagnostic value, but the fact that the slides can be filed and the results checked week by week in cases such as coronary thrombosis, rheumatoid arthritis, salpingitis, etc., places a good and simple prognostic guide in the hands of the physician \*

\* Blood films taken and filed by me more than a year ago still retain all their original clearness and characteristics.

## Summary

1 Varying characteristics of the unspread blood film have been described

2 These have been shown to be dependent on sedimentation rate

3 A technic was described for utilizing this phenomenon as a simple qualitative measure of sedimentation rate

1100 Grand Concourse

## Bibliography

- 1 Fahreus R. *Acta med. Scandinav* p 551 (1931)
- 2 Linzenmeyer O. *München med Wchnschr* 70: 1243 (1933)

## EXPERT WITNESS

Woldman's description of the medical expert on the witness stand is quoted thus in the *American Journal of Medical Jurisprudence*

"With an erudite profundity  
And subtle cogitabundity  
The medical expert testifies in Court  
Explains with ponderosity  
And keen profound verbosity  
The intricate nature of the plaintiff's tort

Discursing on pathology  
Anatomy biology,  
Opines the patient's orbit suffered this  
Contusions of integuments  
With ecchymose embellishments  
And bloody extravasation forming pus.

A state of tumescency  
Producing lacrimosity  
Abrasion of the cuticle severe  
All diagnosed externally  
Although he feared, internally  
Sclerotic inflammation might appear

"The jury sits confused amazed  
By all this pleonasm dazed  
Unable to conceive a single word,  
All awed they think with bated breaths  
The plaintiff died a thousand deaths—  
What agony and pain he had endured.

But then the counsel for the defense  
Devoid of garrulous eloquence,  
Asked Isn't it true that all you testified  
Means merely from a punch or two  
The plaintiff's eye was black and blue?  
'Yes, that's correct, the doctor meekly sighed'

## DIPHTHERIA DANGER SPOTS

At least seventeen communities in upstate New York will have to increase their number of diphtheria immunizations of children under five years of age if they are to feel reasonably secure from an outbreak of this disease according to the 1938 diphtheria immunization reports from sixty-eight places made public by Dr Edward S Godfrey Jr State Commissioner of Health

Health authorities say any community may feel reasonably secure from an outbreak of diphtheria only when 35 per cent or more of children under five years of age have been immunized Dr Godfrey said however that while this will protect a community nothing will protect the individual child except actual immunization treatment and he warned against a feeling of false security on the part of parents who may reside in a community with a high percentage of immunization but whose own children have not been given the protective treatment.

The following communities as of January 1 1939 reported immunization percentages below the 35 mark Elmira Jamestown Dunkirk Gloversville Rensselaer Hornell Oneida, Rockville Centre, Floral Park Oswego Watervliet Fulton Hempstead Glen Cove Lynbrook Valley Stream and Freeport.

Johnson City Middletown and Peekskill are tied for first place in the report with each place reporting 95 per cent Second place honors go to Mamaroneck where 80 per cent was reported Third place honors go to Hudson and Port Jervis each reporting percentages of 77, with Troy running a close fourth at 75 per cent.

# TREATMENT OF TUMORS OF THE EYELIDS BY SURGERY

JOHN M. WHEELER, M D,† New York City

**F**ORTUNATELY, relatively few lid tumors are prone to metastasize, so in general one may say that prompt local eradication with the best possible results is the thing that we are responsible for. In my opinion, radiation about the eyelids should be avoided. Disturbance of pigment, telangiectasis, and destruction of cilia are common from radiation, but especially important is the liability of cataract formation. After radiation, surgery may be called for anyway. Surgery offers the best means of getting rid

of tumors of the lids, but in most cases removal of tumors causes defects which should be corrected, so we should have schemes for operations that result in correction of the defects and good functional and esthetic results. The schemes called for may be made to apply to cases of lid tumor, no matter what their nature. They may be malignant or nonmalignant, pigmented or nonpigmented, radiosensitive or radioresistant. For me, surgery is the first choice.

Occasionally one meets with a tumor in an eyelid that does not involve the lid margin or the skin or the conjunctiva, and such a tumor may need only excision without subsequent plastic repair. Fig 1 shows such a tumor and it shows a good method of making it present itself for examination and for excision. In such a case the skin incision should be planned to fit in with the natural creases of the eyelid, and care should be taken to cause no mutilation of any of the tissues of the lid. For such cases, excision is preferable to treatment by radiation or by sclerosing solutions or any other compromising measures, and the surgeon has the satisfac-

† Died August 22, 1938



FIG 1 Hemangioma of right lower eyelid not involving skin, conjunctiva, or lid margin. The growth is made to present by the introduction of a plate behind it into the lower cul-de-sac.

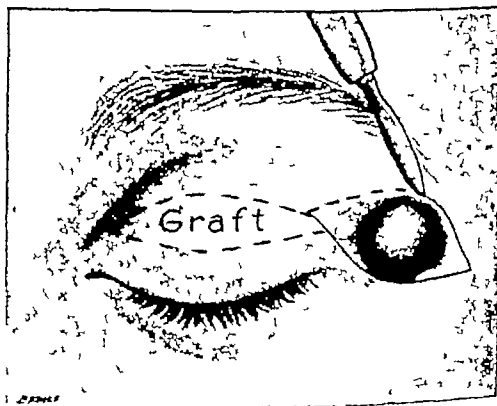


FIG 2 Tumor near outer canthus in child. Excision with graft from upper lid, same side.

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 10, 1938*

tion of an uninjured tumor specimen for laboratory examination

Some tumors are superficial and their excision is very simple, but their removal may cause distortion of one lid or both. Such a tumor is illustrated in Fig 2. It is a rather large hemangioma in an infant. In such a case the best means of eradication is excision with the placement of an upper lid graft. This method of handling the condition assures complete removal without subsequent deformity. Fig 3 shows the removal of the graft from the upper lid and Fig 4 illustrates the completion of the operation. A pressure dressing is required in order to insure a complete take of the graft and it is unsafe for the surgeon to apply a pressure dressing without being sure that the lid margins are in close apposition. A single suture or two sutures placed as shown in Fig 4 will hold the lid margins closely in apposition and assure complete protection to the cornea.

Epithelioma involving the skin at or near the margin of the lower lid is a rather common lesion and it should receive prompt excision after it is diagnosed. In many cases the excision can be performed before the entire thickness of the lid is invaded, so that the tarsus and the conjunctiva of the lid do not have to be disturbed. In such a case the eye lid can be split and flaps of skin with their cilia can be made to cover the area

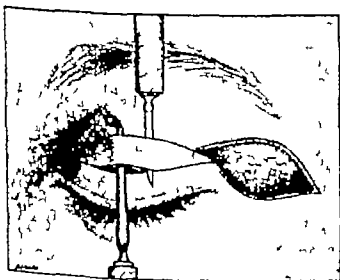


FIG 3 Tumor near outer canthus in a child. Excision with graft from upper lid same side. Tumor has been excised graft is being taken.

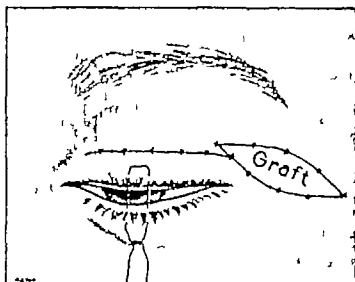


FIG 4 Tumor near outer canthus in child. Excision with graft from upper lid of same side. Graft has been placed. Wound in upper lid has been closed. A suture has been introduced through the margins of the lids to hold the palpebral fissure closed.

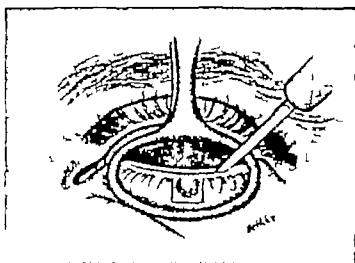


FIG 5 Epithelioma lower lid near margin, not involving the tarsus. Outline of incisions for removal of tumor and for splitting lid margin. Excision of tarsus not necessary.

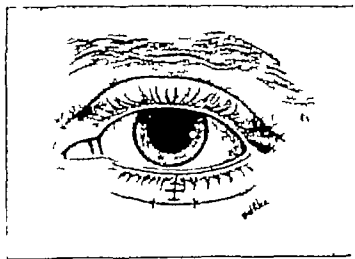


FIG 6 Epithelioma of lower lid near margin not involving tarsus. Skin flaps sewed in place.

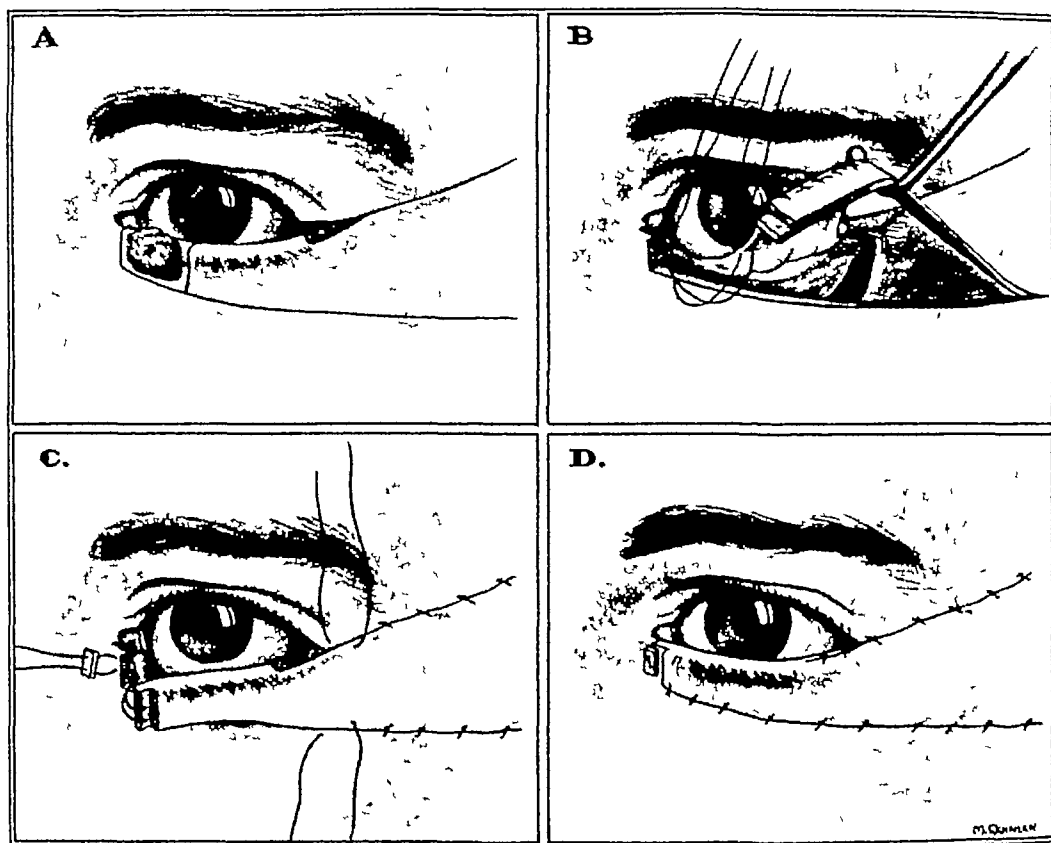


FIG 7 Epithelioma involving the entire thickness of the eyelid. Excision and advancement of flap for reconstruction of lower eyelid.

of excision. Fig 5 illustrates such a case with a plan for the excisions and Fig 6 illustrates the completion of the operation. If the case is handled in this way there is no ectropion, and no disfigurement results.

For the patient's satisfaction it is really quite important that the line of eyelashes be uninterrupted and that there be no resultant deformity. For the safety of the eye it is important that there be no defect in the lid margin and that there be no ectropion.

If the tumor involves the deeper structures of the lid the entire thickness of part of the lid may have to be excised. In such a case, the plastic procedure necessary to furnish a good eyelid must be more or less extensive, depending upon the amount of eyelid removed. Fig 7 illustrates a scheme for correcting the

gap in a lower lid after excision of about the nasal half of its structure. Experience and skill are called for in the necessary dissection and repair. A thorough canthotomy should be made, and from the orbital margin backward and slightly upward an incision should be carried into the malar region and possibly into the temporal region. From the lower limit of the lid excision a second line of incision should be carried near the lower orbital margin and into the malar and possibly temporal region. The length of these incisions must vary according to the amount of advancement of the flap that is necessary to furnish lid substance, and no reliance should be placed on traction at the tip end of the flap. This should be thoroughly relaxed. As the two diverging incisions are carried back they should increase in depth, so that

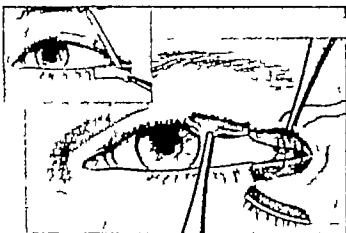


FIG 8. Operation for shortening palpebral fissure and correcting a defect in the margin of the left upper eyelid. The completely denuded tongue at the outer end of the lower lid fits into a cleft in the upper lid.

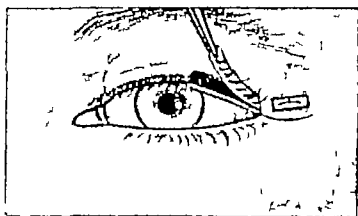


FIG 9. Operation for shortening palpebral fissure and correcting a defect in the margin of the left upper eyelid. Shortening has been completed and graft from outer part of lower lid is being placed in position to correct defect in upper lid margin.

the flap will be not only wider toward the base, but thicker than it is at the apex. A careful halving of the end of the flap and the stump to which it is to be attached should be made. This halving will prevent subsequent deformity and it will provide secure union at the end of the transplanted flap. For proper advancement of the flap it may be absolutely necessary that the lower lid be thoroughly released from its attachment to the periosteum at or near the orbital margin. Such release is accomplished by thorough incision of the external canthal ligament below the canthotomy and of the tarso-orbital fascia below that. Success in sliding the flap is impossible unless the surgeon understands the necessity of accomplishing thorough detachment of the lower lid from the periosteum. When the surgeon cuts the canthal ligament and the tarso-orbital fascia, fat presents. Usually the presentation can be disregarded, but if it prolapses, excision of prolapsed fat may be necessary. It is thoroughly important that such a flap as described should have an epithelial lining, for any uncovered area will suffer subsequent contraction from new formed tissue that appears before the flap is completely covered with epithelium. Illustration B, in Fig. 7, shows an effective way of obtaining a complete conjunctival lining for the reconstructed lid. The

conjunctival epithelium is dissected from the fornix and from the surface of the globe, so that the surgeon borrows bulbar conjunctiva and makes it act as lid lining. It is important that the conjunctiva should be carefully closed with sutures, so that there will be no gap. Advancement of the flap is accomplished by working from the base toward the apex with sutures that are placed diagonally from the stationary flaps backward to the movable flap at its upper and lower borders. The traction on the flap in its basal part is considerable, and it causes puckering of skin above and below the movable flap. Thus, however, is only temporary. At the completion of the operation the outer part of the lid will have no cilia and the lid margin will be imperfect. The epithelial surfaces of conjunctiva and skin should be brought together with sutures.

Gradually, after the operation, the upper lid will be stretched through contraction of the flap, so the palpebral fissure will be too long. This increased length of the palpebral fissure and the defect in the outer part of the lid margin can be corrected later by an operation that shortens the fissure and involves the transplantation of a strip of cilia from the outer part of the upper lid to the outer part of the lower lid (Figs. 8 and 9). Such an operation gives a decided



gain in the appearance on the operated side. Rarely a tumor of the upper lid calls for a similar operative procedure. More rarely, the operation is called for both above and below.

Occasionally an epithelioma involves a large surface area without invasion of the conjunctiva. Such a tumor calls merely for excision and placement of a graft from one of the upper eyelids or from the retroauricular angle or both, but if the tumor involves all the structures of the entire lower lid, thorough excision of the whole lid is called for and the best reconstruc-

tion of the lid is by the method suggested by Hughes.\*

Many variations of the schemes presented and other operations quite differently planned are called for to remedy defects following eradication of tumors of the lids by radiation and by excision. For good results it is absolutely necessary that the surgeon should be familiar with plastic surgery about the eyelids. This necessity exists no matter what means the surgeon may select to get rid of tumors.

635 West 165th Street

\* Hughes, Wendell J. A New Method for Rebuilding a Lower Lid. Arch. Ophth. 17: 1008 (1937).

## IMPORTANT LABORATORY AIDS IN DIAGNOSIS AND TREATMENT

I. Cultures of the uterine discharge should be taken with a swab from the vagina, the most careful precautions against introducing microorganisms into the birth canal are essential.

II. Blood Cultures. Blood cultures should be incubated under anaerobic conditions, and also in an atmosphere containing about 10 per cent of CO<sub>2</sub>. Since the bacteremia is often intermittent, it may be necessary to take more than one blood culture in order to demonstrate the invasion of the blood stream.

III. Urine Cultures. Cultures of clear specimens of urine may, even in the absence of a urinary tract infection, reveal the infecting agent when blood cultures, because of intermittence in the bacteremia, fail to do so.

IV. Blood grouping and compatibility tests of the bloods of patient and donor should be made if transfusion is indicated, as is frequently the case.

V. Blood Counts. Blood counts will reveal the severity of the anemia and the patient's leukocytic response to the infection. In patients with hemolytic streptococcus infections who receive sulfanilamide, blood counts will give warning of the occasional dangerous reactions to this drug—severe leukopenia or acute anemia.

—The New York State Association of Public Health Laboratories  
October, 1938

Leaflet No. 11

## EXPERTS SIDETRACKED FOR "OUR BOYS"

Many New York State communities still insist upon appointing "one of our boys" as public health officials rather than to seek qualified men from other cities. Dr. George Bachr, chairman of technical advisory committee of the Committee on Neighborhood Health Development, said at a luncheon of the New York Tuberculosis and Health Association at the Pennsylvania Hotel. The luncheon followed the thirty-seventh annual meeting and conference on tuberculosis, held jointly by the association and the Tuberculosis Sanatorium Conference of Metropolitan New York.

"The public health field in many states and in most communities throughout the country," Dr. Bachr said, "is not yet in the hands of trained

experts who are appointed for reasons other than purely political ones. Here, even in the State of New York, where we pride ourselves as living in one of the most civilized parts of the country, as far as public health is concerned, there are only six county health departments in the upstate area manned by full-time, expert public health officers.

"We are still confronted with the fact that even in the State of New York our cities are unwilling to appoint trained experts if none are available in their own communities. They still insist upon appointing some one locally, 'one of our boys,' especially if 'one of our boys' is politically useful."

# SOCIAL AND ASOCIAL ACCOMPANIMENTS OF INTENSE HORMONE MEDICATION

EDWARD LISS, M D , New York City

**M**ATURATION is a complex process whether we use that term in one particular sphere of man's activities or another. The very yardstick that we utilize is in itself so variable that it adds further complexity. The term "normal" no matter how sharply it may be defined still includes many variables. It would seem somewhat more simple to be able to define a normal biologic picture than it would be to define a normal emotional pattern, yet we know it is any thing but simple.

Within recent years the developments in hormonology have contributed to medicine an infinite number of valuable therapeutic procedures many of them still to be evaluated in terms of application. The literature is voluminous in investigations are multiple in number, and the pace of these findings is an accelerated one. We have become rightly sensitive to the consideration of human beings as psychobiologic entities, that these entities are different aspects of a whole, and that one cannot segment these components. They are closely interrelated and mutually influenced. And yet we see constantly in practice this knowledge unappreciated until the phenomenon of medication creates unsatisfactory situations in associated areas, although the immediate therapeutic focus responds successfully.

Human constitution is increasingly accepted as being not alone a biologic structure or architecture, but a framework upon which emotional patterns and human practices depend. If we are sensitive to the accompaniments of biologic changes when hormone therapy is instituted we must likewise realize that conduct, social practices, and intellectual processes are concomitant phenomena. And in the utilization of hormones our decision must necessarily be determined

by the potentialities in these allied fields. The literature implies this and utilizes this knowledge, but one would gather that these side effects are always of undoubted success. The unfavorable instances in these experiences are often overlooked because they are apt to fall into the realm of the psychopathologic. Within recent years and particularly within the last year, the literature has presented many instances of the successful application of male hormone in cases of biologic immaturity such as undescended testicle. The clinical result in children has been encouraging. The social implication of this therapy has received lesser notation—this probably, for many reasons.

Over a period of three years of time we have had definite evidence of contrary emotional phenomena. This may be statistically within the normal expectancy of that age level (before puberty) that commonly comes for therapy because of variations from the expectant norm. This point is something that we cannot overemphasize. It is a responsibility that the therapist must be aware of when he undertakes intensive hormone administration.

When one is confronted with premature practices of an asocial nature in children who have undergone intensive hormone therapy one wonders (1) as to the timeliness of such a procedure (2) what precautions has medicine available at such a time to avoid these formidable and serious complications. Although our knowledge of the human psyche is comparatively limited, yet we have, through a mergence of the findings of many fields of approach, certain practices that are utilizable for such crises. The organism accommodates its psychic patterns to physical variations either successfully or unsuccessfully.

In the first instance, biologic maturation, comparatively speaking, keeps pace with emotional growth. In the second instance, the psyche may overcompensate or undercompensate. Bizarre conduct practices are the resultants, with overcompensating precocious or regressive infantile manifestations. Modern science has expedited the utilization of hormones through subcutaneous medication, so that we see intense growth phenomena biologically within a comparatively short time. Can the human psyche keep pace with this accelerated physiologic maturation? This is a matter for careful deliberation. Our own feeling is that there are hazards and one must anticipate bizarre manifestations of conduct, if not of metabolism, with this intensive therapeutic technic. Clinically, we meet

through this intensive medication premature heterosexuality, homosexuality, and perverse infantile sexual practices. We meet with this frequently enough in a comparatively limited sphere of practice to warrant suggestions that this aspect is a hazard that must be evaluated in our decisions for intensive therapy. Should this be only a limited experience, not a fairly common accompanying phenomenon, still certain precautions must be instituted to make a definitely worthwhile clinical procedure safer to the individual and to society. Such precautions would necessarily imply a period of observation, during which period methods of re-education and guidance would be a definite accompaniment of intense hormone therapy.

130 East 39th Street

#### "HELP FIND EARLY TUBERCULOSIS"

The 1939 "Early Diagnosis Campaign" for the purpose of reducing the tuberculosis death rate has been launched by the New York Tuberculosis and Health Association in cooperation with many other agencies throughout the country. Emphasizing the fact that 8 out of every 10 cases now being admitted to sanatoriums are advanced cases, the campaign is making a popular appeal for support with the slogan "Help Find Early Tuberculosis."

In promoting the campaign, which is of an educational nature, a twelve-page booklet entitled

"An Appeal to Leaders" has been prepared for free distribution. The booklet has an isotype chart showing gains made in the tuberculosis fight from 1925 to 1934, is illustrated with photographs of tuberculin testing, chest x-ray, etc.

Copies of the booklet as well as two new four page leaflets, "A Stitch in Time" and "A Heart to Heart Talk," are now ready for free distribution. Requests should be addressed to the Health Education Secretary in care of the New York Tuberculosis and Health Association, 386 Fourth Avenue, New York.

#### HE SAW THE STARS

"I don't want to go to bed yet, Mother. I want to stay out and look at the sky. It's so pretty!" Imagine the emotion of a mother on hearing these words from her little boy, who had never before in his life been able to see the stars! It is not often that The National Society for the Prevention of Blindness is able to trace the effects of its work so directly as in this case, reported by a teacher who had received instruction in eye hygiene for children from one of the society's staff members. Noting that one of her

kindergarten children stumbled about awkwardly and was poorly adjusted socially, she believed that his seeming dullness might be the result of poor vision. She urged his parents to have his eyes examined. They complied with her request, and the little boy was fitted with properly prescribed glasses. The teacher was well rewarded for her efforts when the overjoyed mother came to her the day after the child had started to wear glasses and told her of his pleasure in seeing the stars for the first time.

# TYPHOID OSTEOMYELITIS AND CHONDRITIS

## Presentation of Two Cases in the Same Family\*

HENRY H. RITTER M.D., F.A.C.S. and S. JUDD BOCHNER, M.D., New York City

(From the Department of Traumatic Surgery and the Department of Surgery of the New York Post Graduate Medical School and Hospital, Columbia University)

THE apparent rarity of typhoid disease of bone and cartilage is due, at least in part, to the fact that many cases go unrecognized. The patients go along for months and years with a discharging wound, receiving intermittent treatment for chronic pyogenic osteomyelitis, and unbeknown to themselves or to the community, they harbor the typhoid bacillus.

The clinical manifestations of this disease are usually evident within the first year following typhoid fever, but as Winslow in a review of 101 cases points out, 20 per cent of these cases do not appear until "years later." Buschke reports a case in which the interval was forty five years, Garr reports a case in which the osteomyelitis appeared nine years after the typhoid fever, and in which there was a secondary recurrence of the osteomyelitis eighteen years later. Cultures should be taken with special reference to the typhoid paratyphoid group in all instances of chronic osteomyelitis, even though the patient may not remember ever having had typhoid fever. Only in this way can we hope to recognize and perhaps eradicate this relatively hidden endemic focus of typhoid fever.

We present 2 cases one of osteomyelitis and chondritis of the ribs, and the other of osteomyelitis of the tibia, both due to the *Bacillus typhosus*. These cases are of particular interest because they occurred in a husband and wife who had typhoid fever at the same time, apparently from the same source, and both developed bone typhoid. Whether this be a coincidence or indication of a selec-

tive affinity of this particular species of *Bacillus typhosus* for bone is beyond the scope of this paper, but is of sufficient interest to be mentioned at this point.

*Case 1*—The husband aged 43 a locomotive engineer suffered a prolonged siege of proved typhoid fever lasting from January to May 1935. During the latter part of his illness he complained of some pain in the left chest. Some swelling and redness appeared over the left parasternal area, and in August 1935 an abscess was opened by his local doctor. Repeated recurrence of the abscess finally brought him to us at the Post-Graduate Hospital in December 1935. Cultures from the wound showed *Bacillus typhosus* and paratyphosus. Under special precautions the patient was operated upon on December 6 1935. A chronic sinus was traced to the fifth costochondral juncture. The periosteum and perichondrium were thickened and both bone and cartilage were removed down to apparently healthy tissue on both rib and sternum. The wound was closed with a small drain. The postoperative course was uneventful and he was discharged on December 21 1935. The wound healed by primary intention.

One week following discharge, the patient noted the recurrence of swelling and redness in the wound and in a few days a small abscess was opened. Cultures of the exudate showed *Bacillus typhosus*. Because of the extensive nature of the original operation a conservative routine of therapy was established rather similar to that used in tuberculosis. The local area was dressed under specific control to prevent secondary infection as well as to isolate this known focus of typhoid bacilli. It was not until the fall of 1936 that this sinus was finally obliterated.

*Case 2*—The wife aged 44 developed typhoid fever in February 1935 while nursing her husband one month after the onset of his illness. She improved rapidly and was apparently well until March 1935 at which time she complained of persistent boring pain in the lower part of the left leg most severe at night and when she rested. Palliative measures brought little relief. X ray studies showed a well localized bone

\*Cases presented at the Symposium on the Typhoid Carrier Problem at the New York Post-Graduate Medical School and Hospital, June 1936.



FIG 1 Roentgenographs of Case 2 showing the well-circumscribed chronic osteomyelitis with abscess due to *Bacillus typhosus*

abscess apparently of considerable duration. She was admitted to the Reconstruction Hospital, Unit of the Post-Graduate Hospital, Service of Dr. H. H. R., on November 25, 1935. There was a large tender swelling at about the junction of the middle and lower thirds of the tibial crest, measuring 4 inches in its long diameter. Operation, under special precautions, was performed on November 26, 1935. The gross pathology was that of chronic osteomyelitis with sequestrum. There was marked osteosclerosis and periosteal thickening. Osteotomy and saucerization were performed, and a vaseline gauze pack placed in the wound. The leg was immobilized in plaster. Cultures taken at the time of operation were positive for *Bacillus typhosus*. Blood Widal was negative. Cultures of the feces were negative. Examination of the tissue removed at operation showed a "nonspecific" chronic periosteitis and osteitis. Orr dressing and changes of plaster were repeated on January 2, March 1, and April 22, 1936. On the last date the wound was found to be closed and mobilization was allowed. The patient was able to go about her usual duties until June 1, 1936, at which time she again noted pain in the area of the wound, and on the following day a small bleb appeared. Seropurulent material drained from a sinus at this point for six months, until closure finally took place under a routine similar to that followed for the husband.

The decidedly chronic character of the disease, together with the history of having had typhoid fever, should in themselves lead to the possible diagnosis of typhoid osteomyelitis. A positive Widal and culture of *Bacillus typhosus* from the exudate will establish the di-

agnosis and, what is perhaps more important, the patient must then be recognized as a typhoid carrier.

The urine and stool cultures usually taken as criteria for the diagnosis of the carrier state of typhoid fever are negative in these people. A positive Wassermann reaction may further confuse the picture, particularly in view of the indurated character of the soft-tissue reaction. The omission of proper cultures for the typhoid-paratyphoid group of organisms in these cases must be considered as a grave error.

Radical block excision of the entire disease-bearing area is essential to the treatment of typhoid osteomyelitis and chondritis. Unfortunately, this is not always feasible because of the association of vital structures and because the limits of the tissues harboring the organisms are often indefinable. The sunshine, food, and rest treatment of tuberculosis is prolonged and costly, but where further surgery is inadvisable it is a logical and an excellent form of therapy. Vaccine therapy, as used by Garr and Gannon, and bacteriophage given into the wound as well as subcutaneously and intravenously, as described by MacNeal, are helpful adjuncts to the principal therapy which is surgery.

## Summary

Two cases of osteomyelitis and chondritis due to *Bacillus typhosus* following typhoid fever have been presented. Both cases had been operated upon by radical procedures, and both had recurred, to close many months later under the rest, food, and sunshine therapy.

These patients are typhoid carriers and must be treated medically and socially as carriers.

The importance of searching for the *Bacillus typhosus*-paratyphosus groups in all chronic osteomyelitis cases is stressed as the only means of locating and limiting this occasional source of typhoid fever.

## Bibliography

1. Brock R. C. Brit J Surg 23 231-232 (1935)
2. Elliot A. R. : M Clin. North America 11: 229-235 (1927)
3. Gannon, James A. J.A.M.A. 103: 113 (1935)
4. Garr Chas. C. South M J 20: 200-200 (1927)

5. MacNeal Ward J. Am. J M. Sc. 184: 80-803 (1932)
6. Murphy, John B. Surg Gynec. & Obst 23 119-143 (1916)
7. Wentworth, E. T. J Bone & Joint Surg 11: 540-541 (1929)
8. Winslow N. Am J Surg 77: 319-320 (1923)

## ALCOHOL AND THE LIVER

Alcohol and the habits induced from drinking large amounts of it are the most important factors in the production of fatty liver sometimes the forerunners to yellow atrophy of the liver (cirrhosis) Charles L. Connor M.D. San Francisco points out in the *J A M A* for February 4

He states that a careful review of 130 histories of cases in which cirrhosis or fatty liver or both were found revealed that the factor next in importance to alcohol is the abnormal diet which invariably accompanies severe chronic alcoholism. One can further reduce this to a specific lack of sufficient carbohydrate in the diet.

Fatty livers occur in many diseases and are incidental to poisoning by such substances as phosphorus, chloroform carbon tetrachloride and alcohol. The most common disease in man with which fatty livers are associated is diabetes due to the lack of proper sugar metabolism and the incomplete oxidation of fat.

Alcohol interferes with carbohydrate metabolism and fat oxidation and because of the poisonous action of alcohol on cells and tissues and because of starvation or lack of carbohydrate in the diet sugar is withheld from the metabolic cycle. It seems evident then that when two factors are operating—alcohol and starvation or alcohol plus a protein fat diet all of which lower the respiratory mechanism of the tissues of the body—the liver will accumulate unoxidizable fat and liver cells will be deprived of oxygen and nutrition. The liver becomes an unnatural storehouse of fat so far as oxygen carbon dioxide exchange is concerned. There is then a complete depletion of sugar (carbohydrate) from the liver the absence of which renders it more susceptible to all poisons.

By alcoholic poisoning and severe chronic alcoholism Dr. Connor explains he means the constant consumption of sufficient alcohol in any form to alter materially the normal carbohydrate fat metabolism or the consumption of large amounts so frequently that normal metabolism is not re-established in the intervals.

To comprehend this, he states the ordinary

drinker must discard his somewhat naive and amateurish conception of what constitutes a heavy drinker. One is astounded to learn that a two bottle man means a 2 quart bottle man and not two pints a day and that men and now very frequently women may consume a gallon or more of sherry wine (from 20 to 22 per cent alcohol) in twenty-four hours and one must keep in mind that most alcohol addicts like morphine addicts, become pathologic liars when questioned in routine history taking. They have acquired some degree of tolerance. This tolerance is broken through when the liver becomes filled with fat and the time comes when very small amounts of alcohol may cause a degree of lasting intoxication. This is so in experimental animals after a time smaller and smaller amounts of alcohol are needed to keep them in a constant state of semicoma.

Three phases of disease of the liver produced by alcohol are discussed by the author.

1. The acute fatty liver of alcoholism develops after prolonged drinking of large amounts of alcohol during which little or no food is taken or the food consists of protein and fat only. It is found in men picked up by the police who die shortly afterward. It is most common in the coroner's morgues in all large cities.

2. The fatty liver in which there is early but definite and progressing fiber like degeneration around the lobules of the liver is the product of alcoholism which is less in degree than that causing the first phase but which is nevertheless severe. In the liver which survives drastic alcohol poisoning and partial starvation diets a fiber like network of tissue will develop in the course of time.

3. The liver in the third phase is likely to be somewhat reduced in size and to have a nodular surface and a thickened covering. Fat may or may not be present. The condition follows the long-continued use of excessive amounts of alcohol by persons who have continued to eat a better diet but whose intake of alcohol and food has been abnormal.

# THE LAUGHLEN TEST FOR SYPHILIS

SUMNER PRICE, M D, New York City

*(Clinical Professor of Pathology, New York Polyclinic Medical School and Hospital)*

THE aim of this article is not to present an argument for supplanting the Wassermann test by the Laughlen test, nor is this an attempt to discredit the Wassermann test. The aim is chiefly to show that the Laughlen test for syphilis compares favorably with other well-known standard tests. However, that in itself would be insufficient were it not for the fact that the Laughlen test is simple in technic, rapid, and suitable for certain purposes clinically where other tests requiring complicated technic might be impractical.

The Laughlen reagent is prepared by a modification of the standard Kahn antigen. It is in reality a suspension of meat particles in water and alcohol, to which has been added balsam, cholesterol, benzoin, and a fat stain. For those interested in the method of preparation of the Laughlen reagent, they are referred to Laughlen's original article.<sup>1</sup> Those interested in studying the various tests included in this article, in patients under treatment, are referred to my previous article.<sup>2</sup> (None of those 257 tests are included in this series.) Let it be sufficient, in defense of that article, to say here that in view of a positive history—in a generalization—I see no difference between a 2+ test and a 4+ test in so far as clinical interpretation is concerned, and no such distinction is made in this article. Neither do I consider the lack of positiveness of any single test, nor of multiple or repeated tests to be necessarily a true guide as to the sufficiency or efficiency of the treatment. Those points were not previously made clear. I am concerned only with the behavior of the tests.

In this series of 1,496 cases where Wassermann (Kolmer modification), Kahn, and Laughlen were done on each

serum, there were 60 cases that showed anticomplementary Wassermann and in which both Kahn and Laughlen were completed with satisfactory readings. In 1,319 there was complete agreement, however, in 904 of these there is no definite history known to me as to how many may never have had syphilis. Probably the majority of these were always syphilis free, and therefore the tests really contribute little to the series in the way of information regarding the respective value of the tests. The tests were positive in 109 cases, of which 30 are known to be untreated cases but are left in the group of unknown positives. In 97 there was a variable degree of disagreement, and it is to this series that the attention is drawn.

The tables (opposite page) throw a little light on the relative value of the Wassermann, Kahn, and Laughlen tests. The Kahn and Laughlen agree more closely because the Laughlen reagent is prepared through a modification of the Kahn antigen.

The Kahn and Laughlen, in my experience, definitely seem better than the Wassermann in "picking up" a treated case of syphilis, and for that reason is particularly recommended as a means of determining the presence or absence of syphilis in a prospective blood donor. It seems that most doctors agree, in spite of an occasional contrary article, that it is advisable to discard any treated, as well as any untreated, case of syphilis for blood donation. The Laughlen, although not infallible, is far superior to the Wassermann for such a purpose.

The Kahn and Laughlen are less subject to fluctuations under treatment since they usually remain positive in a low degree for a variable but quite long period after the Wassermann has become

TABLE 1

|  | History of Treatment Unknown | Treated Cases | Totals |
|--|------------------------------|---------------|--------|
| All tests negative   |                              |               |        |
| Wassermann Kahn and Laughlin negative                          | 904                          | 145           | 1 049  |
| All tests positive   |                              |               |        |
| Wassermann Kahn, and Laughlin positive                         | 109                          | 181           | 290    |
| Anticomplementary Wassermann                                   |                              |               |        |
| Wassermann unsatisfactory POSITIVE Kahn and POSITIVE Laughlin  | 15                           | 10            | 31     |
| Wassermann unsatisfactory, NEGATIVE Kahn and NEGATIVE Laughlin | 20                           | 9             | 29     |
| Tests in disagreement  |                              |               |        |
| NEGATIVE Wassermann, POSITIVE Kahn and POSITIVE Laughlin       | 7                            | 48            | 55     |
| NEGATIVE Wassermann NEGATIVE Kahn and POSITIVE Laughlin        | 0                            | 14            | 20     |
| POSITIVE Wassermann NEGATIVE Kahn and POSITIVE Laughlin        | 2                            | 8             | 10     |
| POSITIVE Wassermann POSITIVE Kahn and NEGATIVE Laughlin        | 2                            | 5             | 7      |
| POSITIVE Wassermann, NEGATIVE Kahn and NEGATIVE Laughlin       | 2                            | 3             | 5      |
|  | 1 007                        | 429           | 1 496  |

TABLE 2—SUMMARY OF TESTS IN DISAGREEMENT

(Of the 97 tests in disagreement, 79 had a history of prior treatment.)

|   | History of Treatment Unknown | Treated Cases | Totals |
|---|------------------------------|---------------|--------|
| Kahn and Laughlin disagree (total 37)       |                              |               |        |
| Kahn POSITIVE, Laughlin NEGATIVE            | 2                            | 5             | 7      |
| Kahn NEGATIVE, Laughlin POSITIVE            | 8                            | 22            | 30     |
| Kahn and Wassermann disagree (total 70)     |                              |               |        |
| Kahn POSITIVE, Wassermann NEGATIVE          | 7                            | 48            | 55     |
| Kahn NEGATIVE, Wassermann POSITIVE          | 4                            | 11            | 15     |
| Wassermann and Laughlin disagree (total 87) |                              |               |        |
| Wassermann POSITIVE, Laughlin NEGATIVE      | 4                            | 8             | 12     |
| Wassermann NEGATIVE, Laughlin POSITIVE      | 13                           | 62            | 75     |

negative. The so-called Wassermann fast case is an exception. In case the fluctuations of the Wassermann have been forgotten one must remember the reason for the periodic check at six month intervals over a period of years after the test has once become negative.

The Laughlin is also recommended for use on babies, or wherever the amount of serum available is small—one large drop of serum is all that is required. In preoperative cases, where a differential diagnosis may be important, the Laughlin is very useful.

Other factors that favor the wider use of the Laughlin in the small laboratory and that make the Laughlin superior to other rapid methods not mentioned, are

- 1 The technic is simple.
- 2 Sterility is not essential
- 3 The test is not subject to interference by a slight degree of hemolysis except in rare instances
- 4 The reagent is preferably kept at room temperature.

5 Except for evaporation, the test is not subject to interference by normal variations in atmospheric temperatures (The Wassermann is notoriously troublesome in hot weather, particularly the complement.)

6 The reagent is stable and available at a moment's notice if prepared each week.

7 The test is economical

8 No special equipment is required

### Technic

The technic of the test consists of placing an equal quantity of serum and reagent on a slide and mixing thoroughly. It is immaterial whether a large platinum loop or a pipette is used to measure the drop so long as the amounts are about equal. The only requirements are slides must be clean and free of acids or other chemicals, there must be thorough mixing of the reagent and serum, the mixture must be in sufficient quantity to avoid drying before a ten minute period



has elapsed After ten minutes if there is no macroscopic clumping of the stained particles the test is read as negative

Always run a negative control When the reagent becomes old it becomes too sensitive, so that eventually all sera will react If fresh reagent is prepared each week from the stock (which keeps six to eight weeks) and negative controls are run, no difficulties in interpretation should be encountered The agglutination must always be macroscopic Readings made through the microscope will lead to errors in interpretation

### Interpretation of the Test

After the serum and reagent have been mixed, gentle agitation is maintained for ten minutes, or until the samples are proved positive or negative Agitation need not be continuous, but should be repeated at intervals during the ten minutes (A large series may be carried out by using larger slides and more tests on one slide) The test is frequently read in degrees, such as 1, 2, 3, or 4+ The plan for such a reading is as follows those reacting within two minutes, as 4+, those within four minutes, as 3+, those within six minutes, as 2+, those within eight minutes, as 1+, and those showing no reaction in ten minutes, as negative

The *size of the clumps is not a guide* as to the positiveness of the test

The *time element*, i.e., the time required for agglutination to become visible *is the guide* for the reading

A positive result is shown as a "brick dust" scattered through a clear fluid, with a tendency for the clumps to gather at the periphery of the drop of fluid as the clumps grow larger A negative result shows a slightly cloudy pink, or reddish, suspension of finely granular particles Readings are best made with the slide held above a dark background

The dye used that imparts the color to the suspension is Scharlach R, a fat stain, which is taken up by the finely suspended cholesterized meat particles When agglutination takes place the

color is therefore thrown out of suspension, yielding a brick dust in a clear fluid

I wish to acknowledge the assistance of my technician, Mrs Katherine Smith Howey, in helping me with this work

### References

- 1 Laughlen, Dr G F Canad M A J 33 179-183 (1935)
- 2 Price A S Medical Times, 65 398-402 (1937)

### Appendix

Since this article was written, I have attended a conference at the office of Dr Charles R Rein, where Dr Mahoney of the United States Public Health Service, Dr A F Coca, and a representative of the Lederle Company were in attendance At that time it was recommended that the Laughlen reagent be withdrawn from general use Certain criticisms of the Laughlen test were advanced with which I am in sympathy

1 "The Laughlen should not be recommended for use with spinal fluids

2 "The fact that the test is economical should have no consideration in estimating the value of the test

3 "The test should only be recommended for use with inactivated serum for the best results" Inactivation may be carried out by heating the serum to be tested at 56 C for a half-hour, or 63 C for three minutes (Rein)

4 "The reagent should not be recommended for use by the general practitioner" The test is yet in a trial period, and should be confined to use in the larger hospitals and in the hands of a trained technician

5 "The technic should be better standardized with a more accurate measurement of the size of the drops of serum and reagent The material should be spread over a standardized area limited by paraffin rings" Such a procedure would undoubtedly lead to more uniform results at large Yet, in my hands, with the "crude" technic recommended by Laughlen, the test has worked with remarkable efficiency However, the platinum loop and the pipettes used have remained constant throughout and this

constancy might account for the satisfactory results

It is my belief that criticisms 1, 3, and 5 have been advocated for some time, and will be found in a supplementary note found in each package of reagent marketed

There were some other criticisms of the test with which I am not in entire agreement. These points of difference are

1 The test makes no allowance for doubtful readings

After all, it is not the reading but the interpretation, in view of the clinical history, that determines the doubtfulness of weakly positive reactions in any test. The point that the general practitioner would be unable to interpret the weakly positive reactions correctly seems more of a criticism of the general practitioner than of the test.

2 The fat stain added is useless and its addition is an attempt to make the product spectacular. In addition, it adds extraneous material that will increase the false positives. There is an element of biased personal opinion in such a criticism. The advantages of the dye seem to outweigh the disadvantages of its presence. The dye does not add anything to the specificity, but it does enhance the ease with which the test is read

3 The test will experience an undue number of false positives due to the presence of tuberculosis, malaria, or leprosy, in the patient.

That is a prediction, and not a proved point. In that respect, however, it does seem a valid criticism to withhold the general distribution of the reagent until further observation has been made. Even if this should be found true, such an objection would not contraindicate the use of the Laughlin for testing blood donors.

4 The test is tricky

The technic of the Laughlin is simple, but it is exacting. To say that the test is tricky is an exaggeration. A little experience can eliminate any claimed trickiness in the hands of a competent techni-

cian. The fact that too many poorly trained technicians exist should not condemn the test for the purposes for which it is recommended. The test is no more exacting, and no more tricky than the procedure of blood typing. Yet, I have heard no cry that blood typing should be "dispensed with" because it is tricky, nor is there any agitation that blood typing should not be generally used.

There seems to be an undue amount of alarm as the result of the granularity of the reagent as it becomes older, and because the reagent is crudely prepared. There is a fear that this granularity may be read as positiveness, and, therefore, in the wake of present agitation about syphilis many syphilis free patients will be treated unnecessarily.

The test is not recommended at the present time as a guide for treatment, and never should be so regarded, although in a study of the reagent it is necessary to observe how the reagent behaves in in the sera of treated cases. Cautions have already been given as to the granularity of the reagent, true agglutination must take place, there must be an actual throwing out of suspension of the colored particles. A negative control must always be done. Granularity does not constitute a positive reading. The test must not be read through the microscope. The time element is the factor for the reading.

I do not agree with the argument that there is no place, and no need for such a test as the Laughlin. The individual should determine the need. The need of the person supervising blood transfusion is far different from the one treating syphilis, and from the one supervising a routine diagnostic laboratory.

Finally, I should like to say that I have no personal interest in the commercialization of this product. During the first year the reagent was furnished to me without cost, but during the past year all reagent used has been purchased willingly through the regular channels. My experience with the test indicates that the Laughlin reagent warrants further investigation and use.

# CONSTITUTION AND SITUATIONS

IRA S WILE, M D , New York City

**I**F HEREDITY is an essential factor in physical and psychic diseases, social effort can be effective in its control by selective matings, incarceration, sterilization, mandatory contraception, subsidized birth release, or even, for some cases, by a socially therapeutic abortion. Admitting the possible inheritable element, the gene responsible for the transmission of the defect, whether it be a dominant or recessive trait, must function in terms of the total organism. The definite control of genes depends upon factors of positive or negative eugenic control effective on mating to a degree far beyond our present skills. There is need for larger knowledge concerning the direct and indirect approach to environmental factors held to be dysgenic. It is evident that some persons reveal weak nervous systems as well as other physical inadequacies, but both are subject to external conditioning factors.

There are numerous assumptions that physical bases underlie psychic organization. These involve the principle that bodily structure is responsible not merely for cerebral functioning but also enters into personality organization to an extent sufficient to establish types. Thus Kretschmer<sup>1</sup> sets forth the linear, asthenic and athletic types with schizophrenic trends and the lateral pyknic group with cyclothymic tendencies. This bears considerable likeness to Jung's<sup>2</sup> differentiation of the inheriting extroverts and introverts advancing or retreating in terms of an inborn libido that determines their mode of adaptation to life. Bleuler's<sup>3</sup> classification of syntonie and schizoid follows the same thought of basic structure, which is more fully urged by Adler<sup>4</sup> in his entire concept of an organic constitutional inferiority as responsible for all human behavior, especially in its abnormal phases. In his language "Inferior organs and neurotic phenomena are

symbols of formative forces which strive to realize a self-constructed life plan by means of intense efforts and expedients."

From organs in general to endocrines in particular is but a small shrinkage, hence ductless gland structure and function have received considerable attention as possible causes of many vagaries of the human mind. In one form or another personality reactions have been attributed to physical conditions in health and disease, in direct inheritance, and in predisposition. That there are vague relationships is admitted, though their how and why are uncertain. Henderson,<sup>5</sup> for example, states that if one parent has Huntington's chorea, 50 per cent of his children will be thus afflicted, while if the parent is a manic-depressive, 33 $\frac{1}{3}$  per cent of the children will be victims of the condition. In the presence of parental schizophrenia and epilepsy, mental abnormalities may be expected among 50 per cent of the children, while among hysterics 48 to 61 per cent of the children will have mental and nervous anomalies.

Are mental disorders directly transmitted? Meyerson, reporting on 22,300 admissions to the Taunton State Hospital, found that 10 per cent were related but that only 23 belonged to a family represented through three generations. It is very necessary to distinguish individual peculiarities from distinct familial failings. Subjection of similar persons to similar conditions may conduce to similar states without any semblance of direct biologic inheritance. The life histories of repeated generations of man will reveal greater vertical and horizontal distributions of measles and tuberculosis than of mental diseases. Not so many decades ago it was urged that tuberculosis was a hereditarily disseminated disease, but such a claim is no longer tenable.

The facts support Meyerson's statement<sup>4</sup> "There is therefore some ground to suspect that environmental conditions, social status and disease play a role in bringing about such variable conditions and that while the matter may be constitutional it is not heredity but individuality which must be considered

"The marked variability in the age of onset of these mental diseases, the phenomena of anticipation and antedating thus point also to the conclusion that we are dealing with disease rather than the kind of heredity involved in the main biological factors." Emphasizing blastophoria, he indicates many physical and psychic effects of the reaction of the germ plasma to alcohol, thyroid feeding, heat, x rays, etc. There is a strong implication that heredity in mental disease is more a question of the transmission of a psychopathic constitution or a predisposition to responses termed psychotic. It is urged that the urban life is a tremendous force in causing a lessening of nervous stability

Havelock Ellis<sup>7</sup> asserts that the level of physical and nervous stability is less in urban England than in the rural areas and that cities are racially dysgenic. No one would deny that the mode of life affects general physical welfare. The link age of goiter and water supply, dietetic deficiency and pellagra, narcotics and crime, and prostitution and syphilis tells a tale of mystery if not tragedy. The mental hygiene aspects of economics are no more important than the economic phases of mental hygiene. The industrial revolution and the building of cities were as influential upon human activity and mental function as the occurrence of the plagues, white and black, or the French Revolution. Whether environmental pressures are blastophoric or structural, whether or not predispositions occur, the transmission of mental states is exceedingly difficult to control. Certainly the most favorable leverage for reasonable control lies primarily in the alteration of the dysgenic elements in the environment. There are ample indica-

tions that environmental factors are more significant than constitutional. The Great War and its resultant breakdowns, the neurotics, the 'shell shocked,' psychotic, and maladjusted testify to external pressures far beyond constitutional resistance

Neuropsychiatric disorders during the World War had a higher incidence among American officers than among the enlisted soldiers and the rate was higher among officers serving abroad than among those remaining on this side of the Atlantic. The incidence among troops abroad was less because of the exclusions from service that had been established before the time of embarkation. The total incidence of neuropsychiatric disorders<sup>8</sup> among the home forces was 69,394, classified as 11.4 per cent psychoses, 16.5 per cent psychoneuroses, 10 per cent nervous diseases and injuries, 2.9 per cent drug addiction, and 2.7 per cent alcoholism. The environmental pressures are reflected in the fact that 21.7 per cent of the urban and 16.9 per cent of the rural potential soldiers were rejected. There was a slightly higher rate of neuropsychiatric cases among the whites living in urban areas—56 per cent as against 40 per cent in rural groups, although 49 per cent of the whites lived in the rural areas. Of the 7,354 white psychotics, 4,228 were from an urban and 2,759 from a rural setting. Of the colored group, 73 per cent were from rural areas but the neuropsychiatric group contained 30 per cent urban and 64 per cent rural origins. There were, among the 556 colored psychotics 216 from urban and 323 from rural areas. Certainly such data do not imply the dominance of hereditary factors

In support of the marked influences of environment are the figures for army discharges because of *nervous disease and injury*, of which one-third were due to syphilis of the central nervous system. Of the total 6,116 whites, 3,703 were definitely recorded as urban and 2,127 rural dwellers, of the 800 colored, 406 were urban and 385 rural. The differ-

ence between urban and rural effects is sharply manifest

Assuming the weighted values of heredity and environment as fifty fifty, it is apparent that a social attack on the latter promises potential achievements, even affecting the biologic transmission of structural inadequacy to meet life. If the environment possesses even moderately blastophoric influences upon hereditary tissue, structure, and function, then the improvement of social conditions and the modification of an oppressive environment will tend to protect, if not advance, the heredity of stable stock—and thus is most important, as most pathologic trends and states appear to be recessive. Beyond doubt a social program could exert a strong protective influence against the deterioration of vigorous stable stock and even raise the potentials of relatively poor stocks if it took more cognizance of the value of lessening the hazards of doubtful intermarriages, whether consanguineous or alike in disease. Shuttleworth<sup>9</sup> expresses the idea clearly: "The problem is no longer the relative potency and determining influence of heredity and environment, instead it is a problem of determining whether the differences in heredity existing in a given population are large or small relative to the range of the existing differences in the environment which are operating on that population."

The psychogenic point of view of Freud, emphasizing the significance of emotional conflicts, especially the psychosexual factors in the unconscious, makes too little allowance for physical responses to wholly conscious efforts and experiences. It does not suffice as a basis for practical constructive efforts to limit the development of diseases whose etiology is unknown but which cannot therefore be attributed to repressed desires and emotional conflicts. If the world were full of psychoanalysts of all schools, their prophylactic value would be limited because of their dogmatic disregard of the essentially environmental factors that inhere in every specific situation affecting personalities. Psychoanalysis, per se, is not

able to cure a large variety of mental disorders and thus has not been demonstrated to be an effective prophylactic for illnesses at present regarded as psychogenetic.

The personal psychic approach could make little advance against the twin evils of alcohol and syphilis, as manifested in nervous and mental disorders. The attack upon mental disorders calls for a broad foundation for understanding their origin and nature. In the language of Henderson and Gillespie,<sup>10</sup> a mental disorder is "the sum of many conditions, and the end result of a large chain of processes. The earliest of these may have begun in the unfertilized germ plasm—another may have operated *in utero*, and the rest may be reactions of an organism thus handicapped to the aids and obstacles which it subsequently meets in the environment in which it finds itself—the influence of parents and teachers, the difficulties in the path of ambition, and the ease as well as the hardness of innumerable situations of life."

Obviously the approach to the prevention of mental diseases and the postponement of death cannot be merely psychiatric, psychologic, or purely biologic but must be medical, sociologic, and cultural in order to search for and utilize all eugenic and euthenic factors favorable to the development of the maximum number of balanced personalities. This is the essence of applied mental hygiene. Perhaps the heredity-environment status is best summarized in the statement of the British Committee on Mental Deficiency<sup>11</sup>: "Heredity furnishes the material, environment shapes and uses it, heredity is the mechanism, environment, the stimulus which sets in action, heredity fixes the possibilities of development, environment determines which of these possibilities shall, and how far they shall, become realities."

Further development of this concept is found in the conclusion of Schwesinger<sup>12</sup>: "Personality is dynamic, not static, it is never the same twice, either for two individuals at the same time or for one individual at different times. For that

reason one hesitates to call it a structure." It is this dynamic conception that dominates a dispassionate consideration of living in and through situational stimuli. The prevention of mental diseases involves mass activity, while the cure calls for individual attention. The reason is implicit in Jennings<sup>12</sup> sound comment. The same kinds of differences between individuals can be produced by diversity of genes and by diversity of environment. There are few if any types of mental diversity that can be asserted on *a priori* grounds to be certainly genetic or certainly environmental. To determine to which category a given diversity belongs requires a knowledge of the pertinent concrete factors for the particular case examined."

The genetic differences are difficult to ascertain and the control of genes depends upon sterilization or completely certain contraceptive practices and upon legislative control of mating, but even such procedures depend upon social sanction and social control. There are larger groups of individuals whose genetic potentials are more or less unknown or doubtful but who are subjected to common environmental settings, practices, and pressures that are more susceptible to analysis, study, and eventual modification through rational constructive action. In the final interpretation, there is no fine line differentiating heredity and environment and both are subject to humanly directed forces for the amelioration or prevention of their regressive and dysgenic tendencies.

Social control has manifested real value through its somewhat effective attack upon ophthalmia neonatorum and rickets, as well as its efforts to detect and assist the poor sighted and hard-of-hearing children. Attempts to lessen these and other states, and all campaigns with a similar purpose, are of definite concern to mental hygienists as well as to those serving the blind or the deaf. Mental hygiene also can be valuable for the group nondeficient mentally and non-handicapped physically. The psychologic

effects of bodily diseases, disorders, and disabilities may be profound, affecting outlook, temperament, attitudes, and behavior. Phantasy life, inferiority feelings, a sense of inadequacy, frustration, resentment, or hostility may gradually permeate an individual's conscious life and become the foundation for neurotic escapes, antisocial behaviors, egocentric negativism, hysteric fears, paranoid suspicions, hypomanic self assertiveness, or a self withdrawing schizophrenic trend. Hence, every movement to reduce the accidents and illnesses of children lessens their premature exposure to needless pains and frustrations and influences the incidence of mental distress and potential mental diseases. A consistent pursuit of this goal will postpone some deaths from actual diseases and others from lethal sequelae like meningitis and brain abscess, and in addition it will lessen the deteriorations following encephalitis, hemorrhages, and many secondary conditions, thus further postponing death. Whatever lowers the vitality standard, whether originating at the somatic or at the psychic level, is a threat to the race as well as to personal welfare, and concerns the mental hygienist.

All human behavior involves a constitutional and a situational factor and often the constitutional factor may be the intrinsic factor of the situation—as, for example, a facial blemish of an adolescent, the sense of inadequacy of a congenital cripple, or a palpitating fear developed by an unbalanced endocrine experience. Situational factors may involve personal factors of fundamental social importance. They often depend, however, upon social conditions with broad communal bases which can be attacked only by social efforts after deep understanding such as housing, low wages, exposure to toxic gases, prostitution and hazards of the street or of the factory.

William A. White<sup>14</sup> holds the idea that the cultural standards of civilization create forces that make psychotic developments in individual cases but it is as true that they create opportunities for

personal development far ahead of anything which one finds in the culture of savages" The theorem of Le Chatelier is held to be fundamental, i e, "a system tends to change so as to minimize an external disturbance" Society unfortunately is man's greatest external disturbance and hence is faced with the need to change its own system in self-protection

No one would deny that "mental disease always has social significance and the social maladjustments to which it leads constitute types of reaction that are also manifest in accordance with the same laws at the other levels of functioning In other words the same laws hold for the manifestations of reactions at the social, the psychic, and the somatic levels" There is ample support for the thesis that "mental disease is a disorder of man as a social animal"

The urban-rural factor offers at least another piece of evidence regarding social pressures in terms of mortality rates Disregarding all possible discussions concerning differences in the hereditary make-up of urban and rural populations, it is not unfair to compare mortality rates as the revelation of comparative adaptations to life Assuredly hereditary elements are not responsible for the marked differences presented with the following table<sup>15</sup>

URBAN VS RURAL MORTALITY—WHITE U S, EXCLUDING TEXAS

| (Death Rates per 100,000 Population)                   |       |       |
|--|-------|-------|
| Diseases   | Urban | Rural |
| Cancer and malignant tumors                            | 123 5 | 80 3  |
| Syphilis   | 7 1   | 3 6   |
| Diabetes mellitus                                      | 24 1  | 15 4  |
| Diseases of heart                                      | 241 5 | 184 5 |
| Appendicitis   | 21 0  | 8 8   |
| Hernia intestinal obstruction                          | 13 4  | 6 5   |
| Cirrhosis of liver                                     | 9 4   | 5 2   |
| Nephritis  | 92 4  | 78 0  |
| Congenital malformations and diseases of early infancy | 63 8  | 54 7  |
| Auto accidents, primary                                | 20 0  | 20 7  |

Why are the mortality rates of the italicized diseases higher in urban than in rural areas, if hospitals, dispensaries, registration regulations with follow-up, are helpful, if insulin is more available, and if prenatal care is more general?

The mortality of urban areas is 31 per cent in excess of the rural The reasons for this are numerous beyond enumeration but it is apparent that the total picture of urban death rates suggests the operation of struggle, strife, and suffering beyond the rural experience It is striking that urban life manifests the potential death values implied in the table, in contrast to the admitted low special figures for the rural population This is in harmony with the general low mortality rates for agricultural workers

These facts hint at varying effects of the conditions of living in the urban and rural areas as possibly being more significant than the differences in age and sex distribution of their populations, etc. One recognizes that the data may reflect differences in diagnostic skills and diagnoses and may mirror some differential distribution of a cause of death which now may be called cancer and now senility, etc Thus, however, does not account for the generally higher death rate in cities from diseases that receive there greater sanitary and public-health service, even in the poorly developed urban sections of the United States

The urban-rural mortality variations are in harmony with the types of mental disease in the urban and rural populations already noted The rates of cerebral arteriosclerosis, paresis, and alcoholic psychoses, as well as of manic-depressive and depressive attacks, are higher among the urban first admissions, while senile, involutional psychoses, and mental deficiency are higher in the rural areas, according to William A White Mere density of population affects the relationships of human beings and profoundly penetrates their lives, thinking, feelings, and actions Social density enters into personal problems and conduces to mental disorders, especially those less severe in expression than the psychoses The same urban-rural problems enter into physical and psychic interactions that affect human capability and equilibrium The lack of immunity of rural soldiers to measles and mumps is far greater than their susceptibility to mental diseases, and both

facts suggest the relatively low exposure to germs, viruses, and deteriorative toxic emanations from dense overcrowding and social frictions. The social problems of urban living demand new evaluations in the light of human maladaptations, the development of psychic difficulties, the postponement of mortality, and the maintenance of sound sane capacities for living.

Mental disease, as frank psychoses probably is not increasing even in terms of first admissions. Neither dementia praecox nor manic-depressive psychosis show a marked increase. Man's ancient complexities in a slowly developing civilization call for better mental adjustment but his young bipedal visceral organization is often less successful in adaptation and his organic responses may reveal the brunt of the impact, even though in the form of irregular dysfunction. We have inadequate figures on severe mental disorders and even less satisfactory data concerning the neurotic delinquent and the maladjusted personality. Maladaptation is not measurable in qualitative values of life and it cannot be judged from any quantitative data that has been developed, as the concept of abnormal behavior has been widened even while being mathematically evaluated.

From an analysis of recent trends in first admissions in New York, Massachusetts, South Dakota, New Hampshire, Rhode Island, and Illinois, there is no evident general tendency toward an increase of the mentally diseased. Rather, admissions for mental disease seem to suggest the possibility of a slightly decreasing rate in the near future. This is reasonable in the light of the increase of hospitalization due to education, the provision of more and better institutions, the lightening of economic pressures, etc., which caused rapid rises of admissions. This will lead to a natural relatively decreased number of availables unless there is an actual marked increase of the mentally diseased.

The data for Australia, Sweden, England, Wales, and Scotland substantiate the contention that mental disease is not increasing.

An analysis of the trends of specific psychoses in New York State—senile, general paralysis, manic-depressive psychosis, and dementia praecox—indicates that first admissions for these mental ills are decreasing. First admissions with cerebral arteriosclerosis and alcoholic psychosis are increasing, probably in some relation to the increase of old age in the population.

The trend for paresis is downward for each sex. The rate of male first admissions for dementia praecox is practically stationary, while the rate for females is declining slowly.

More care of a mental hygienic nature would be protective of mental health but obviously the prepsychotic group must receive the paramount attention. Any healthy nervous system may break down, depending upon the volume and intensity of the stimuli that are required to shatter its normal balance. Physical states may predispose or cause mental distress, and mental stresses may lessen vitality to resist certain types of organic involvement. Resistance values vary under conditions of time, place, and circumstances, i.e., at adolescence or the menopause, in the presence of the familiar or the unfamiliar, under the stress of a loss of status or pride, under the attrition of a sense of inferiority, guilt, or unbearable responsibility.

Social factors are receiving recognition in the attention given to alcohol, syphilis, and social pressure. The factor of natural selection is less operative than ever and many survive who are not fit to meet the strains of life. Their physical responses reveal their psychic struggles to adapt, and equally their psychic responses bespeak their physical maladaptations. Heredity and environment, constitution and situation focus in man and affect all men, but the social man and the society of men involve strains that may break man or even society. The social neuroses and the social psychoses are also dependent upon constitution and situation which in turn may bring about social deteriorations as significant to future generations as are neuroses and psychoses.



to the families of the present victims of mental disease. This threat appears more violent, if there be continuing truth in the prognostic allegation that one out of every five persons in our population is destined at some time to spend time, money, and effort to recover from a mental disorder. Social control has its task of mental hygiene.

### References

- 1 Kretschmer, E. *Physique and Character*. Harcourt Brace & Co. New York 1925.
- 2 Jung, C. G. *Psychological Types*. Harcourt Brace & Co. New York 1926.
- 3 Bleuler, E. *Ztschr f d ges. Neurol u Psychiat* 78 373.

- 4 Adler, Alfred. *The Neurotic Constitution*. Dodd Mead & Co., New York 1926 p 446.
- 5 Henderson, E. K. *Tr Med-Chir Soc. Edinburgh*, 1934.
- 6 Meyerson, Abrahams. *The Inheritance of Mental Diseases*. Williams & Wilkins Company, Baltimore, Maryland 1925 p 127.
- 7 Ellis, Havelock. *The Task of Social Hygiene*, Constable & Company, London 1922.
- 8 The Medical Department of the U.S. Army in the World War 10. *Neuropsychiatry*. Washington, 1929.
- 9 Shuttleworth, F. K. *J Ed Psychol* 26 561-578 (1935).
- 10 Henderson, D. K. and Gillespie, R. D. *A Text Book of Psychiatry*. Oxford University Press, 1930.
- 11 Report of the Committee on Mental Deficiency presented to the Annual Representative Meeting of the British Medical Association July, 1932. *Vide Arch Neurol and Psychiat* 30 No 2 421 (Aug) 1933.
- 12 Schwesinger, Gladys C. *Heredity and Environment*, The Macmillan Company, New York 1933 p 444.
- 13 Jennings, H. S. *The Biological Basis of Human Nature*, W. W. Norton Co., New York p 202.
- 14 White, William A. *Arch of Neurol and Psychiat*, 12 No 5, 899 (Nov) 1929.
- 15 Dublin, Louis I., Lotka and Alfred. *Length of Life*. The Ronald Press Co., New York.

### INFECTION IN THE HOME

With its leaflet on "Health Examination of Adults" the American Academy of Pediatrics attacks a common source of childhood infection. Children frequently contract such serious diseases as tuberculosis and syphilis and a host of lesser ills from adults in the household who are themselves unaware of their condition. Periodic examination of adults in intimate contact with children would disclose many diseases in time to prevent their spread.

Tuberculosis, one of the most serious of the contact diseases, is one of the easiest to detect

X-ray reveals tuberculous lesions in the lung before the infectious stage of the disease is reached. Syphilis, sinusitis, and certain skin diseases are other infectious conditions which can be brought to light by periodic examination.

The adults from whom a child is most likely to acquire a contact disease are parents, grandparents, uncles, aunts, and servants. Early discovery and treatment of unsuspected diseases would benefit them and at the same time protect the child members of their households from injury.

### HOW TO BLOW YOUR NOSE

It may seem a sad commentary on our boasted civilization that after the eons of man's upward climb we have to write to the *Journal of the A M A* to ask how to blow our nose. Yet the following appears in its highly respected and always helpful correspondence pages:

"To the Editor—What is the correct way to blow the nose? What difference does it make whether first one nostril and then the other is emptied, or the two together, so long as pressure is not exerted by forcible blowing?

ANSWER—The correct way to blow the nose, physiologically, is to draw the secretion back to the nasopharynx and expel it. This procedure is certain to prevent any extension of infectious

material to any of the uninfected cavities of the head and the ears. Nevertheless this practice is unesthetic, and various methods have been designed from time to time to clear the nose in a more esthetic manner.

The principle, regardless of what method is used, consists of a deep inhalation through the mouth and a gentle expiratory blast through the nose. The expiratory effort through the nose can be accomplished with one or both nostrils open. It is of the utmost importance that the blowing of the nose should be extremely gentle.

For practical purposes it makes little difference what method is used as long as forcible nose blowing is at all times studiously avoided."

First Intern "Why do you call that new nurse 'Appendix'?"

Second Intern "Because all the doctors want to take her out"—*The Excavating Engineer*

# COMPRESSION FRACTURE OF THE SPINE

## Treatment by Spinal Fusion

M. BECKETT HOWORTH, M D, New York City

COMPRESSION fracture of a vertebral body is usually treated by rest in bed with a plaster of Paris jacket, brace, or hyperextension frame, with or without an attempt at correction of the deformity. Such treatment ordinarily requires two to four months of recumbency and several additional months of convalescence. The period of disability is long, the cost of treatment considerable, and the psychologic and physical effects on the patient frequently unhappy. Watson Jones and Böhler have reduced the period of hospitalization and bed rest by applying a snug plaster of Paris jacket with the spine in hyperextension and getting the patient up within a few days after injury. They have these patients begin exercises during the first week. A number of surgeons in this country have followed this example. This treatment is limited by the difficulty or impossibility of hyperextending, or even fully extending the dorsal spine, and in some cases the lumbar spine, and the unsuitability of application to certain types of patients. With either type of treatment there may be persistent stiffness, pain, and weakness at the fracture site. There is often disability for any strenuous occupation, and for athletics. In some cases the correction is lost in part or in full, particularly when the period of recumbency is relatively short, or hyperextension is not maintained. Many of these patients come to the orthopedist for further care.

The purpose of this paper is to evaluate the fusion operation in compression fracture of the spine. The basis of this evaluation is a study of 36 such patients who had the operation performed at the New York Orthopaedic Hospital. These

patients have arbitrarily been divided into two groups, 15 operated upon within two months after fracture, and 21 having operations two months or more after injury. A second series, comprising our 18 cases with dislocation or fracture dislocation of the cervical spine, was reported by Cole in September, 1937 (Archives of Surgery). The results in his group were good in 83 per cent.

No attempt was made to correct the deformity in the 21 late cases of compression fracture of the thoracic and lumbar spine, as the fractured fragments had already united. These patients complained of pain, weakness, stiffness, and disability. Examination revealed deformity, limitation of motion, and often tenderness and spasm. Roentgenograms confirmed the deformity, and in the later cases demonstrated the changes of traumatic osteoarthritis. Primary fusion was obtained by the operation in 80 per cent of the spines and by a secondary operation in the remainder. The symptomatic and functional results were good in 14 of the 21 cases, fair in 7, with a follow up period averaging three years.

A fusion operation was done upon 15 spines within two months after fracture. Correction of the compression was attempted in only 4 of these spines. Primary fusion was obtained in 86 per cent, secondary fusion in the remaining 14 per cent. The symptomatic and functional results were good or excellent in 13 cases, fair in 1, poor in 1. Thus the operation resulted in a very high percentage of good results when it was done within two months after injury regardless of whether correction was obtained or not.

The problem of the compression deformity, whether to correct it, how to do

it, and particularly how to maintain it, is a large one with many proposed solutions. One phase of the problem, however, demands serious attention, i.e., associated fracture of other portions of the vertebrae. In this group of 36 cases, there were 5, or 14 per cent with fractures of the laminae or lateral articular processes. It is significant that these fractures often cannot be seen even with clear roentgenograms carefully studied. The possibility of injury to the spinal cord when such fractures are manipulated is obvious. Therefore, the safest method of correction of a vertebral compression fracture is with the use of gentle and gradual force, with careful observation of the patient for neurologic complications. Correction can usually be accomplished in this manner by placing the patient on a Gatch bed with a hinged fracture board, the patient's head at the foot of the bed, and hyperextending the spine by raising the former knee portion of the bed. It is essential that the fracture board be used, as the sag in the ordinary springs is sufficient to prevent actual hyperextension of the spine. Pillows should not be used under the head and shoulders, and the kyphosis should be centered over the angle of the board. Correction may require several days and should be checked with lateral roentgenograms in the hyperextended position.

We have seen many cases in which hyperextension was secured only through the disks, with no change in the impacted vertebral body. This implies that not enough hyperextension was used. We have seen such cases pointed out with pride as excellent corrections, but with no follow-up. Naturally, as soon as hyperextension is released the spine tends to resume its original deformity. It must be demonstrated that the correction of the vertebral deformity has been actually maintained for a period of a year or more, in order to prove that the correction is of value. We have seen very few instances anywhere demonstrating the maintenance of correction in the vertebral body with nonoperative treatment. Without spine fusion, there is

often pain at the joint involved in the fracture after the fracture has healed. With spine fusion there is no pain in this joint, whether or not the deformity has been corrected. However, deformity in one area of the spine upsets the posture and mechanics of the remainder of the spine, and in some cases causes backache or fatigue, usually at the lumbosacral joint, particularly if this joint is structurally weak. For this reason more than any other it is desirable to correct the deformity before doing the fusion. In a few cases, where this has been done, the correction has been maintained by the fusion, and the posture has remained normal. In other words, we consider the ideal treatment for simple compression fracture of the spine (1) correction of deformity in the vertebral body, (2) maintenance of correction, promotion of early healing of fracture, and prevention of arthritis in the affected joint by spine fusion.

There is not sufficient time to discuss the treatment of these fractures when paralysis exists, and this is a combined neurosurgical and orthopedic problem. There is often a neurosurgical necessity for opening the spine, as for decompression, or for removal or rearrangement of comminuted fragments. In these cases the desirability of providing an adequate splint is often yet more urgent. Accordingly in these cases, fusion should, when practicable, be combined with laminectomy or other procedure.

The operation is performed as devised and subsequently modified by Hibbs. Exposure is made through a midline incision over the spinous processes. A careful subperiosteal dissection of the spinous processes, laminae, and articular processes is done with elevators, and the interspinous ligaments and the posterior three-fourths of the ligamentum flavum removed. Bleeding is controlled by careful packing. The capsules of the lateral articulations are removed and the articular cartilages and subjacent cortical bone cut away, leaving a gap averaging one-eighth of an inch wide. These gaps are filled tightly with bone chips from the

fossae inferiorly, or the spinous processes. Additional chips are turned across the interlaminal spaces from the laminae, and the spinous processes cut into small fragments that are placed across the laminae. After closure a spinal brace is applied, and the patient is kept in bed on a fracture board for six to eight weeks. If the deformity has been corrected, hyperextension should be maintained. Ordinarily the patient is allowed up with the brace at the end of six to eight weeks, but if the vertebral body is badly comminuted or the fusion should mature slowly, this period must be longer or a plaster jacket applied with the spine hyperextended. Thus the period of bed rest, or hospitalization, is almost always less than two months. In most cases all ordinary activities are resumed by the end of the fourth month, including work that is not physically vigorous. The great majority of these patients resume full physical activity, including vigorous work and athletics within six to twelve months after operation. The convalescent period can usually be shortened by the proper use of physical therapy.

The spine-fusion operation is technically difficult and should be attempted only by the surgeon especially trained in its use. In unskilled hands there may be bleeding or shock, and a high percentage of failure of fusion. It is not surprising that failure of fusion should occur occasionally, just as nonunion occurs in fractures. It must be remembered, however, that the chief cause of failure is to be found in the technic of the surgeon. Further, it must be recognized that some surgeons do not admit the possibility of technical failure in their hands, but consider all failures to be the fault of the patient, a position that is quite untenable. It is unfair to judge the value of the operation on the basis of these unskilled attempts at fusion and as a corollary it should be pointed out that the operation is not indicated in circumstances where there is no surgeon available to do it properly.

The fusion operation should not be undertaken when the patient is not a

suitable operative risk. The operation, when properly done, is not serious. The possibility of operative death from infection, hemorrhage, shock, embolism, etc., should be extremely small. For example, at the New York Orthopaedic Hospital, in the four years 1934 to 1937, 704 spine fusions were done without a single operative death from any cause. Many of these fusions were done on more difficult subjects than the ordinary one with fracture of the spine. There were no deaths among the 36 patients having fusion for fracture, and 1 trivial wound infection. Fusion does not stiffen the spine, it stiffens only the joints fused. These represent only a small proportion of the total motion in the spine, whereas the affected joints are generally moderately stiffened even without operation by the scarring resulting from the injury.

The question arises as to whether fusion should be done as a primary treatment or merely in those cases where other treatments have failed. The general attitude has favored the latter course, which means that fusion is called upon to cure the patients with pain and deformity of long duration, and a record of long hospitalization and incapacitation. This is a severe test, but in 21 such cases the record of results has been good. Dr. Clay Ray Murray has aptly said of fracture treatment that not the simplest but the best procedure for a given fracture should be used first. A procedure that has worked well in the late cases should be more successful if used early. This has in fact proved to be true in our 15 cases. The treatment that requires less time and is more certain, saves time, expense, and the patient's morale and happiness. It is not recommended for all cases under all circumstances, but as a procedure which should be considered when suitable. Given a patient who offers a suitable operative risk, a hospital providing adequate operating room and nursing care for this type of operation, a surgeon trained in the technic of the operation, spine fusion offers a reasonably safe and more certain and rapid method of re-

covery in fracture of the spine than any other type of treatment

33 East 61st Street

## Discussion

Dr Clay Ray Murray, *New York City*—Dr Howorth has presented a matter of extreme importance to those engaged in the practice of industrial and traumatic surgery. He has advocated the advisability of fusion as a primary form of treatment in compression fractures of the spine with commendable saneness and logical thinking.

In discussing his presentation, I would like to stress particularly two of the points which he mentioned. One is the fact that a spinal fusion is a formidable procedure, with definite risk of mortality, infection, and back-muscle damage secondary to operative trauma when done by men unfamiliar with the technical procedure. The other is the fact that reliance on the fusion alone, without regard for either correction of deformity or meticulous postoperative development of back-muscle power, may result in incapacitating low-back strain.

It is unfortunate that the attitude of the Workmen's Compensation authorities here, as elsewhere, is in general opposed to the use of fusion, and yet there must be many cases that furnish the material for their point of view by reason of failure on the part of the attending surgeon to appreciate these two points.

In our own cases we have, in general, reserved fusion for those cases of compression fracture in which correction of the deformity to within reasonable approach to normal has been impossible—in which marked return of deformity occurs despite hyperextension in plaster, in which lesions of the posterior elements are demonstrable preoperatively, in the high thoracic cases in which marked deformity exists (and I agree that correction of these is extremely difficult, if at all possible), and in which pain persists despite maintenance of adequate correction and the adequate degree of back-muscle development in the latter course. These comprise about 15 per cent of our cases.

Were I to suffer from a compression fracture of the spine, I should prefer to have the deformity corrected, a fusion done and adequate postoperative care carried out—but whether or not I would follow that preference would hinge largely on who did it and where it was done.

I think a word of warning against fusion in those with any degree of spinal arthritis, in those who have reached that critical stage between 50 and 60 when little excuse is needed to

refrain from subsequent arduous labor, and in those who have marked malformations of the lower spine which frequently lead to low back disability, is in order.

Dr Howorth has presented a logical method of primary treatment for compression fractures if it is interpreted strictly as being logical only in proper hands, with proper preoperative correction, adequate postoperative care, and in proper patients. Anyone who interprets his story as indicating merely that fusion is the treatment for compression fracture of the spine will collect over a course of years additional poor results to bolster compensation insurance authorities in their objections to spinal fusion in compression fractures.

Dr W H Watters, *New York City*—In entering this discussion it occurred to me that it might be of interest to relate my experiences with spine fusion in fractures at the Beckman Street Hospital. I shall confine my report to 10 operated cases there in 1927 and 1928. These were all operated within a short time after injury depending upon the degree of shock, condition of back relative to contusions, hematomas, etc. In the allotted time I cannot go into the details of the method of handling these cases other than by operation. It seemed to me, however, that the findings at operation might be of interest.

In 7 of these cases fractures of the laminae were encountered—with extreme mobility of these structures in all cases. The postoperative courses in all these cases were essentially normal, except for a low-grade wound infection in 1 case. This was confined to the soft tissue, however, and did not influence the hospital stay or end result. Every case was discharged within eight weeks following operation. I might say that 1 of these cases was visited at a convalescent institution and found operating a heavy double-width lawn mower at the tenth week. Incidentally, this was a compensation case.

Strangely enough, this series may be equally divided into two groups, one group of 5 laborers covered by compensation, one group of 5 not in any sense compensable. This latter group includes a fireman, a policeman, a stationary engineer, construction foreman, and a stenographer. All of the latter group returned to work at approximately one year and have been continuously employed at their original or similar work for ten years. They have also been seen periodically for ten years. I have been in close touch with all these individuals and know that they deny any symptoms other than slight back fatigue upon prolonged extreme exertion.

The personnel of the compensation group was

as follows chauffeur truck driver window washer and two classed as heavy laborers. The follow up in this group was more difficult and shorter. By the end of the fourth year further attempt at study of this group was given up due to failure to locate.

One of this group continued to complain of pain, stiffness etc. and at one year a fracture or failure of fusion was quite apparent by x ray and clinically. Operation verified this and the case was classified as a failure of fusion. He was reoperated and returned to work one and one half years following the original operation or six months following the second operation. At the third year he was at his original work. The truck driver was at his original work for three years. The window washer was working as a porter at the end of the fourth year but was not washing windows in the upper floors. The two so-called heavy laborers one a Polish work man of 42 one an Italian of 17 had not returned to work at two years and no further follow up was obtainable.

Undoubtedly this series is too small to exert decisive influence upon a generally accepted method of treatment. It has, however materially influenced my own course of procedure in that I will still consider it the best preventive for persistent late symptoms and frequent increasing deformities. This is said with very definite reservations however in the laboring group and certain individuals under compensation.

With the marked changes that have occurred in the past few years in the field of economics politics medicine etc. it seems to me there are so many factors influencing man's desire or lack of desire to work that the adoption or condemnation of any standard procedure in these cases is fraught with danger.

In closing I would like to say that my own judgment in this problem has been influenced not only by the operative cases but also by the observation and study of a larger group of non operative cases.

## DANGEROUS DRUGS AND DEVICES SEIZED

The Food and Drug Administration reports a steady increase in legal actions taken against drugs, cosmetics and devices under the new Food Drug and Cosmetic Law.

Although not fully effective until June 25 1939 the new act immediately outlawed drugs, cosmetics, and devices dangerous under the prescribed conditions of use.

Recent actions against cosmetics alleged to violate this provision of the new law include seizures of two brands of hair dyes containing coloring material alleged to be capable of injuring the user. Those seized were 37 packages of Lash Lure and 49 packages of Posmers Black Hair Coloring.

Actions against drugs alleged to be dangerous and to violate the new law included 3 bottles of Cal Co-Cin a pain killer containing cinchophen 488 packages of B C Headache Powders, 11,325 bottles of Bromo-Seltzer and 3,520 packages of Stanback Headache Powders all of which contained among other ingredients bromides and acetanilid. Actions against devices held to be dangerous under the conditions of use resulted in the seizure of 2,922 nipple shields made of lead a poisonous metal, and two brands of nasal irrigation outfits as

follows 68 of Nazoscope and 7 of Hedklear.

The current report shows that continued activity under the Food and Drugs Act of 1906 resulted in the seizure of various quantities of contaminated food products containing insect fragments rodent hairs and other forms of filth.

The gullibility of the public and the rascality of the scalawags who prey upon it seem endless. The list of misbranded patent medicines condemned by the Food and Drug Administration and printed in the *JAMA* of April 1 contains such names as Big Chief Herbs.

Grandma's Medicinal Herbs Minnehaha Indian Herbs Pain Go He-She Antiseptic Vaginal Suppositories Wah Poo Sah Kee-Kee Kee Will Du gout medicine and

World's Wonder System Builder. The Pain Go was essentially kerosene with small amounts of volatile oils such as turpentine and sassafras. A Remedy Tea made of ground wood twigs and needles with juniper berries was fraudulently represented as a remedy for diabetes kidney disorders, etc. It may be that a fool is born every minute, but Uncle Sam is at least trying to stop the patent medicine fakers from killing one every minute.

# RELATIONSHIP OF INDUSTRIAL MEDICINE TO PRIVATE PRACTICE

CLARENCE D SELBY, M D , Detroit, Michigan

THE PUBLIC is accustomed to judge our profession by its ideals, ethics, altruistic objectives, and best practices. We of the profession do the same in judging the specialties of medicine. Surgery, for example, we judge by the collective accomplishments of good surgeons, not by the acts of general practitioners who occasionally venture into the abdomen. In this discussion, permission to judge industrial medicine by the same standards is assumed.

There are three classes of physicians practicing in relation to industry, full time, part time, and on call. As these designations imply, the full-time physicians alone give their whole attention to industry and that is always in one establishment. They are the only truly representative industrial medical group. The others are general practitioners or specialists who give limited attention to industry, usually in the treatment of occupational injuries and diseases. Being in general practice and only incidentally serving in industry, they can be regarded as private practitioners rather than industrial physicians but it must be admitted that they furnish service to about 85 per cent of the industrial establishments in the United States.

Confusion as to the purposes of industrial medicine has resulted from failure to distinguish the practices of these groups. In order that there be no misconceptions in this discussion, it is confessed that all conclusions as to the relationships of industrial medicine to private practice will be based upon the policies, ideals, and best practices of the full-time group.

Industrial medicine as exemplified by this group is the theory and practice of

medicine in relation to the health of the working people, as distinguished from the case work of the private practitioners serving in industry. Fundamentally, it is preventive medicine.

Its basic function is health maintenance, its object is to furnish employees the best possible health protection consistent with (a) the purpose of industry, which is manufacturing, (b) the employer's responsibility as fixed by law, which is the care of occupational injuries and diseases, and (c) the employee's rights as to free choice of medical counsel, which conversely are the rights of physicians in private practice in relation to nonoccupational sicknesses and injuries among the employed groups.

This conception of the scope of industrial medicine is more inclusive than private physicians are prepared to furnish, as attested by the fact that their services in industry are usually limited to treatment of patients. Yet it recognizes their rights as private physicians as well as those of other parties concerned in the general problem of protecting the health of the working people.

As a matter of fact, industry is not in the business of practicing medicine and the ordinary employer does not wish to assume more responsibility for treatment than is required by law. On the other hand, if the size of his plant warrants, he is willing to furnish a sufficiently complete health maintenance service to protect his employees against harmful working conditions.

Viewing industrial medicine from this standpoint, it is found to comprise several functions which will be discussed under three headings: industrial hygiene, physical supervision, and therapy, and in

their discussion the relationships to private practice will be considered

### Industrial Hygiene

In reality, the physician is the health officer of the plant and as such is responsible for the plant hygiene, commonly known as industrial hygiene. He is familiar with the toxic materials that are used and the processes that have harmful though nontoxic features. His duty is to determine if the workmen are adequately protected against them, and if he finds that they are not, it is his duty to inform his management and to persist until control is effected. Furthermore, it is his duty to inspect controlled exposures often enough to satisfy himself that control is maintained. In short, his function as an industrial hygienist is to advise and assist his management in protecting the workmen against occupational diseases and other occupational impairments of health.

How he performs this function is not essential to this paper. It is purely preventive medicine and does not involve any competitive relationships with private practice. Nevertheless, there are two features that should be given consideration.

*An Opportunity for Private Practitioners*—As previously mentioned, private practitioners furnish about 85 per cent of the industries the only medical service they have. It is in the form of medical and surgical treatments of employees who become injured or sick while at work. They sometimes are permitted to consult their own family doctors but usually they are referred by their employers to designated physicians, often certain nearby practitioners. In New York, they may consult physicians of their choice provided those physicians have qualified for compensation work.

The point is this: employers of all grades are becoming more generally conscious of the importance of industrial hygiene. Naturally, if they have hygiene problems they present them to the doctors who take care of their injuries. If

they fail to obtain the desired advices, many of them do not know where to turn. It is therefore suggested that physicians in private practice who accept patients from industry prepare themselves to offer such advice or inform themselves on where such advice may be obtained. This is an opportunity that medicine can not ignore.

*Diagnosis of Occupational Diseases*—A history of harmful exposures is essential to diagnosis of occupational diseases. A workman must be exposed to silica to acquire silicosis, he must be exposed to lead to have lead poisoning, and the conditions of exposure must be such as to cause the disease.

Embarrassing failures in diagnosis have come from failures to ascertain facts as to exposure. It is therefore suggested that all physicians, industrial and otherwise, proceed with caution in the diagnosis of occupational diseases, and refrain from reaching conclusions until the possible sources have been found to be adequately harmful.

### Physical Supervision

Industrial hygiene methods are effective in preventing occupational diseases, in fact, a great deal has been accomplished, and theoretically it may appear unnecessary to go any further except to maintain control. However, the plant physician has to face the issue of alleged aggravation of disease from time to time and often he is asked to treat what are to him obviously nonoccupational conditions which belong to private practitioners.

In connection with these controversial cases, he always has important decisions to make and his decisions must be based upon facts, facts as to the exposures and facts as to the physical condition of the workman involved. These latter facts he can obtain only through physical examinations. So the physical examination of employees becomes a major function of industrial medicine, and further more it is essential to the maintenance of health, which is the basic purpose of industrial medicine.



Examinations are made at time of employment to assure safe placement, often enough during employment to assure protection against diseases originating in or influenced unfavorably by occupation, and for diagnosis to establish occupational or nonoccupational origin when counsel is sought

*Patients Are Referred to Private Physicians*—These examinations and consultations frequently uncover conditions that need medical care. As previously stated, industry has no wish to treat ailments for which it is not responsible, but realizing the importance of early appropriate treatment, it is the duty of the plant doctor to encourage workmen needing treatment to seek early consultation with their private physicians

This service in behalf of employees and their physicians is generally welcome. As a health maintenance measure, it is highly effective, and the interests of all parties concerned suggest that it be encouraged. A frank, friendly relationship between the private physician and the plant doctor is very desirable

## Therapy

While industry has no wish to assume responsibility for treatment, compensation acts have obligated employers to furnish treatments for occupational injuries and diseases. Naturally, they expect their own doctors to render the service and this is usually done. However, the industrial physicians of the type under discussion are moving steadily from surgery to preventive medicine, and the evolution is leaving them dependent upon consultants, who are in reality private practitioners. Incidentally, there is frequently much to be done by the plant physicians in behalf of employees discharged by consultants as cured before they can be placed satisfactorily back in industry

So with the exception of minor injuries and the occupational diseases, which are infrequent, and considering the fact that private practitioners treat the injuries in about 85 per cent of all industries, it is

evident that the private practitioners are dominant in the care of sick and injured workmen. About all that the plant doctor actually does in this respect is to act as a clearinghouse and to correlate the services necessary to adequate care of employees for whom his management is responsible. In short, he acts as a case-finding agency

*Industrial Medicine Is an Ally of Private Practice*—This trend on the part of industrial medicine to ally itself with private practice in the care of industrial patients should be encouraged. Industrial medicine is an honorable specialty of medicine. It is suggested that the general profession be made more cognizant of its ideals and objectives. As a means toward a better understanding, it is suggested that more medical societies follow the example of the New York State Medical Society in organizing sections in industrial medicine

## The Real Problem

Industrial medicine, as exemplified in the full-time service, is frankly admitted to be something new in the way of medicine. It is by no means a finished specialty, and no doubt there are still many features needing correction. Industrial physicians are well aware of this and their efforts are being directed with commendable sincerity toward betterment. They know that the care of industrial patients is not the ultimate potentiality of medicine in relation to industry, but that, on the contrary, it is the maintenance of employee health, and they are striving toward that as their objective

The full-time group, by use of industrial hygiene methods and by cooperation with public-health officials and physicians in private practice, are meeting medicine's responsibility in a way that reflects credit upon the whole profession. But they view with considerable concern the inadequacies of the service rendered by private practitioners acting on a part-time and call basis in the care of sick and injured workmen in 85 per cent of the industries of the United States. That

service is not only inadequate, but it is an important competitor of private practice. It is the real problem.

*The Real Problem Is the Private Practitioner in Industry*—As a means toward the solution of this problem, it is suggested that the private physicians in industry give heed to the reforms advocated by Dr R G Leland, Director of the Bureau of Medical Economics of the American Medical Association.\* He advocates

1 Recognition of a three-fold function of medicine—public health administration, plant control or preventive medicine in industry, and care of the sick and injured workmen, or curative medicine,

2 Acceptance of the expert in industrial health control as a specialist in medical practice,

3 Formulation of criteria to determine to what extent and in what manner certain diseases are actually occupational diseases,

\* *Industrial Medicine* 6: No. 5 p 330

4 Study to accomplish a reconciliation of the divergent views on freedom of choice of physician,

5 Formulation of principles pertaining to the organization and administration of industrial health services,

6 Study to determine the manner in which some instruction on industrial health problems and methods may be included in medical education and

7 Elevation of industrial health services and industrial medical care to a position of greater importance and respectability in medical practice.

There are no better closing remarks for this paper than those used by Dr Leland himself. He said 'The welfare of the millions of industrial employees and the future of medicine demand that this phase of medical practice be stripped of its commercial aspects and that it be assisted to develop as a thoroughly ethical, scientific, and respectable phase of medical practice.

3044 W Grand Boulevard

## POSTGRADUATE LECTURE COURSE

A course of lectures on heart diseases arranged by the New York Heart Association and sponsored by the Council Committee on Public Health and Education of the Medical Society of the State of New York will be presented to the St Lawrence County Medical Society at Ogdensburg, New York (12:30 P.M.) and to the Jefferson County Medical Society at Watertown, New York (6:30 P.M.). The program is as follows: May 4 Degenerative Forms of Heart Disease (Hypertension and Arteriosclerosis) by Dr Lewis A. Conner; May 11 Rheumatic and Syphilitic Heart Disease, by Dr Cary Eggleston; May 18 Acute Cardiovascular Emergencies by Dr John E. Deitrick.

The Use of X-ray and Fluoroscopy in the Management of Heart Disease by Dr Harold E. B. Pardee and Therapy in Heart Disease by Dr Harry Gold will be given in the Fall. All of the speakers are from New York City.

## THE JOY OF BEING THE EDITOR

Getting out this magazine is no picnic  
If we print jokes, people say we are silly  
If we don't they say we are too serious  
If we clip things from other magazines  
We are too lazy to write them ourselves  
If we don't we are stuck on our own stuff  
If we stick close to the job all day  
We ought to be out hunting up news  
If we do get out and try to hustle  
We ought to be on the job in the office  
If we don't print contributions  
We don't appreciate true genius  
And if we do print them  
The magazine is filled with junk  
If we make a change in the other fellows write up  
We are too critical  
If we don't we are asleep  
Now like as not some guy will say  
We swiped this from some other magazine  
We did—from the *Bulletin of the Medical Society of the County of Kings N.Y.* (Quoted in the *Pennsylvania M.J.*)

# ROENTGEN THERAPY IN TOXIC THYROID DISEASE

JACOB R. FREID, M D, and HENRY GOLDBERG, M D, New York City

(From the Radiotherapy Department of the Montefiore Hospital)

IT HAS long been recognized that thyrotoxic disease is a manifestation of a more profound disturbance of the organism than simply a disorder confined to the thyroid. Notwithstanding the fact that recent investigations have demonstrated, in more or less detail, those relations of the thyroid to other glands (pituitary, adrenal, gonads) and to the mid-brain, which earlier observers had assumed in a general way, the approach to treatment of thyrotoxic diseases today is still an indirect one<sup>1,2,3,4</sup>. The problem, though considerably clarified, is still far from solution since we are as yet ignorant of the factors that may affect these complex glandular interrelationships in thyrotoxic disease. Most therapeutic procedures in use today are still directed toward the one obviously involved gland, the thyroid, whether by operation or by irradiation, or indirectly by medical treatment. Since the underlying disturbances are still unknown, the results of these measures are often limited, and even when arrests apparently have been obtained, recurrences may follow. Nevertheless, these results are often surprisingly good. At present, many assume that subtotal thyroidectomy is the best therapeutic measure. This is true for a large group of patients. Under certain conditions and in special cases other methods are desirable. The great majority of general practitioners have only a vague idea as to the merits of surgery and radiotherapy in the treatment of thyrotoxicosis. For this reason, we believed it worth while to re-evaluate roentgen therapy in thyroid disease. The results in a series of cases of thyrotoxicosis so treated and carefully followed for a number of years are given here.

## Action of Irradiation

The method of action of irradiation on the thyroid gland is not as yet definitely established. Early workers in this field found no evidence of radiation effect on the normal thyroid gland of animals<sup>5,6,7</sup>. Subsequent observers showed the normal thyroid glands of rabbits to be extremely resistant to x-rays. With large doses, however (approximately 3 to 10 E D), there could be produced in the gland a variation in the structure and a decrease in the colloid substance<sup>8</sup>. More recently, by means of special stains, changes have been demonstrated in the cells of the thyroid glands of rabbits following medium voltage irradiation with doses up to 10 E D. These effects were in the nature of degenerative changes in the chondrioma of all the cells, disintegration of some of the cells, and a reduction in the quantity of the colloid substance in the follicles. The structure of the gland regenerated at varying intervals following the irradiation<sup>9</sup>. These last experiments are of extreme interest and importance to radiologists because they furnish experimental evidence of a direct irradiation effect upon the thyroid gland. However, one must bear in mind that the observations were on animals, that the doses used were greatly in excess of those employed in the treatment of human thyrotoxicosis, and that the action of radiation on the normal thyroid gland may be different from that on an oversecreting gland.

The effect of irradiation on the human thyroid gland is also in dispute. Diffuse growth of the intra-alveolar connective tissue which could be a result of the atrophy of the parenchyma, has been described<sup>10</sup>. Radiation sclerosis of the

organ has also been observed.<sup>11</sup> On the other hand, in a series of 4,061 patients with exophthalmic goiter operated upon in the Mayo Clinic from 1926 to 1928 inclusive, 291, or 5 per cent, had been previously irradiated. At operation, only occasionally could gross changes be recognized in these glands. Microscopically, Broder could not distinguish irradiated from nonirradiated tissues.<sup>12</sup>

On the basis of the earlier work on animals and findings such as Broder's, it was assumed that the beneficial effects of irradiation were due to functional and not to organic changes. The theory most commonly held by radiologists is that advanced by Holzknecht some years ago.<sup>13</sup> He believed that x rays acted by inhibition or depression of the growth and function of the cells and stated that x rays relieved hyperfunction in the same way as did surgical reduction, and could cause hypofunction when applied in excess just as did complete removal of the thyroid gland.

The normal thyroid gland is very resistant to irradiation. Patients treated for malignancies in the neck and larynx have received heavy irradiation over the thyroid, yet rarely if ever is myxedema produced. In the material at the Montefiore Hospital, not a single case of myxedema has been observed as a result of irradiation of a normal thyroid gland. We have, on one or two occasions, witnessed mixed pictures of myxedema and toxicity in patients who have been irradiated for thyrotoxicosis. The myxedema symptoms disappeared spontaneously after varying intervals. In this group, if the toxic symptoms predominated, further irradiation was given. It is a cliché too frequently repeated by surgeons that irradiation of the thyroid gland produces adhesions, often to the point of making subsequent operations, when indicated, more difficult. Such findings were occasionally present many years ago, in the days of crude machines and low voltage caustic irradiation. With the improved technic of the past decade this complication has been eliminated. Reports from the Mayo Clinic,<sup>12</sup>

as well as that of Joll,<sup>14</sup> and Walton,<sup>15</sup> bear out this fact. If these observations were not sufficient, the previous citations on the effect of radiotherapy on the thyroid gland are proof of the rareness of irradiation fibrosis.

### Irradiation of the Thymus

That enlargement of the thymus is often present in Graves disease has long been known to pathologists. The interrelationship of thyroid and thymus has been established by many investigators.<sup>16, 17, 18</sup> More recently, Blackford and Freligh<sup>19</sup> found hypertrophy of the thymus in 73 per cent of 74 cases of exophthalmic goiter. It was present in all patients under forty years of age and absent in half of those over forty. They considered thymic hypertrophy a result rather than a cause of thyrotoxicosis. The hastening of thymic involution in a rabbit following thyroidectomy, as established by Marine, *et al*,<sup>20</sup> is further corroboration of this assumption. On the basis of such findings, there apparently is no clear rationale either for surgical removal or for the irradiation of the thymus gland in thyrotoxicosis.

### Technic

The technic of radiotherapy in thyroid diseases varies to a considerable degree in different clinics. This applies not only to the kilovoltage used, but also to filtration, focal skin distance, size of ports, number of ports, intensity of the irradiation, time interval between treatments, dosage per course, number of courses, and finally to the maximum period patients should be kept under treatment.

When this investigation was instituted in 1929, we planned to vary our technic, using both medium and high voltage x-ray therapy and also, in a limited number of cases, radium therapy. In some cases, treatment was to be intensive, and in others prolonged over considerable periods of time. By comparing these three groups, at a later date, we hoped to arrive at a technic which would give the best results and would be adaptable to

most patients. However, experience has taught us that in dealing with this complex disease it is unwise to adhere too rigidly to a standard method of treatment. As in surgery, so in radiotherapy, the physician handling the case must be as familiar with the disease as with the technic of treatment if the best results are to be obtained.

With few exceptions, the factors for the cases reported were 200 kv, 30 ma, 50 cm FSD, filtration 0.5 mm Ag (equivalent to 2 mm Cu) plus 1 mm Al. Two fields were used in most instances, a right and left lateral port, the size of each lobe of the thyroid, cross-firing the gland. Where the gland was substernal, a small superior mediastinal port was added. Dosage per treatment was 150 to 250 r per port. Usually one lobe was exposed at a sitting, the opposite lobe being treated two to three days later. These exposures were repeated at weekly intervals until each port had received 1,000 r. If patients recovered prior to this time, treatment was discontinued. If a second course of treatment proved necessary, it was done three months later, and occasionally a third course was given when exacerbations of the disease occurred.

At the present time we are treating another group of cases with medium voltage technic. The factors are 140 kv, 5 ma, 50 cm FSD, filtration of 4 mm Al, 125 r per treatment per field. Each lobe is radiated tangentially (the rays passing from the medial to the lateral aspect) so that the larynx receives minimal irradiation.

The cases receiving radium therapy are treated either with a special radium collar or else with a molded wax pack at 3 to 4 cm distance with filtration of 1 mm Pt. The patients were given 1,000 to 1,500 mg hrs at intervals of four to fifteen days, average once weekly. Treatment when necessary was continued for a period of about three months.

### Complications

Complications met with in the treatment of this group of patients were of two

types, direct and indirect. The direct were due to the action of the x-rays on the skin and adjacent tissues. As noted in the statement on technic, our oldest group of patients were treated with 200 kv and 0.5 mm Ag, crossfiring the gland. In some instances, this resulted in an x-ray laryngitis, usually when a second course of treatment was given. As soon as radiotherapy was stopped, the laryngitis improved and later disappeared. We overcame this complication principally by treating the gland from tangential fields and more recently by changing to medium voltage.

We also noted in 2 of our patients, slight telangiectasis but no atrophy of the treated skin. In a period of eleven months, 1 of them was given three courses of 985 r to each side of the neck, a total to each field of approximately 2,955 r. The factors were 200 kv, 4 ma, filter 0.5 mm Cu plus 1 mm Al, 30 cm FSD. The gland was crossfired from a right and left lateral port with doses of 240 r, with only one thyroid field treated at a sitting. The superior mediastinum was also irradiated. Two weeks following the third course, there developed a severe x-ray laryngitis that persisted for months. One year following the last treatment, moderate telangiectasis but no atrophy was noted in the skin of the right neck and to a slight extent also on the left side. The other patient received 2,870 r over a period of one year with the following factors: 200 kv, 30 ma, 50 cm FSD, filtration 0.5 mm Ag plus 1 mm Al. The gland was crossfired from right and left lateral fields measuring  $8 \times 8$  cm, each area being treated once weekly but never on the same day. Dosage varied from 100 to 125 r per treatment. No laryngeal symptoms were noted during the course of treatment. Thirty-nine months following the last irradiation, beginning telangiectasis was observed in the thyroid area. During the following eighteen months, the telangiectasis remained unchanged. The skin showed no evidence of atrophy.

Indirect complications which inter

ferred with treatment were intercurrent respiratory infections, toxic fibrillation and recurrent decompensation in severe cardiacs. Since our cases, with few exceptions, were ambulatory patients, treatment was discontinued when such complications arose. With cardiacs hospitalized, such complications need not hinder therapy.

### Material

Fifty-eight cases are reported, all of whom were personally followed for a minimum of one year and a maximum of seven years. To simplify comparison with reports in the literature, the cases are listed under the usual divisions of exophthalmic goiter, when associated with exophthalmos, toxic hyperthyroidism, if no eye signs were present, and toxic adenoma, when nodules were palpated in the gland, recognizing that this is a clinical grouping in common use that is not based on any real differentiation in the disease itself. The cases have also been listed according to the degree of severity. The occurrence of severe complications is noted. These were severe myocardial disease of long standing, essential hypertension chronic nephritis, diabetes and gastric ulcer.

In Table 1, these groups are numerically listed and further divided according to sex.

TABLE 1

|                     | No. of Cases |        |               |             |
|---------------------|--------------|--------|---------------|-------------|
|                     | Male         | Female | Uncomplicated | Complicated |
| Exophthalmic goiter |              |        |               |             |
| Severe              | 7            | 10     | 10            | 7           |
| Moderate            | 2            | 3      | 5             | 0           |
| Mild                | 0            | 3      | 2             | 1           |
| Hyperthyroidism     |              |        |               |             |
| Severe              | 6            | 3      | 5             | 4           |
| Moderate            | 2            | 7      | 6             | 3           |
| Mild                | 0            | 5      | 5             | 0           |
| Toxic adenoma       |              |        |               |             |
| Severe              | 0            | 1      | 1             | 0           |
| Moderate            | 3            | 0      | 2             | 1           |
| Mild                | 0            | 6      | 5             | 1           |
| Total               | 20           | 35     | 41            | 17          |

### Analysis of Material

(Tables 1 and 2.) Table 2 (page 910) is a complete summary of the cases from the time of admission through the period of follow up. The basal rate and pulse

headings give those findings before treatment was instituted. Classification of severity is based on a combination of the above findings in conjunction with the clinical severity of the cases. In addition, a description of the patient's nutrition and eye features is stated in order to round out the general clinical picture.

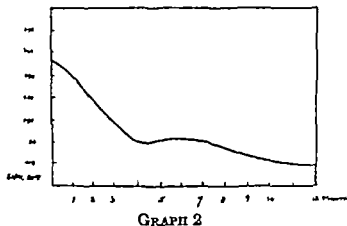
In the seventh column, the radiotherapy administered is described. The use of x ray therapy of the deep (200 kv) or the medium type (140 kv) is indicated, respectively, by the headings "D" or "M". The number of roentgens in air, for the course of treatment, is also noted. For radium treatment, the number of milligram hours is stated, as well as the period of administration. In the two following columns, we note the basal rate and pulse rate findings upon completion of each course of treatment. These were usually taken within a month of the close of treatment.

The following column, labeled "result," is a summary of the results achieved. These are divided into three general groups. Cases called controlled are those in whom toxicity receded and the result was sustained. Those cases who showed response but in whom all the toxic features did not entirely recede, are called improved. Patients who showed no improvement are listed as failures. Whenever a recurrence is noted, it is stated in this column. The final basal reading available in each case and the time at which it was taken after treatment was instituted are also listed for each patient.

Finally, in the last column, headed remarks, individual features of each case, including complications and our comment, are given.

Table 3—Our total results show 79.5 per cent either controlled or greatly improved. This includes, (see following page) a rather large number of cases with severe complications, most of whom were at the same time severely toxic. The results as a whole, therefore, compare favorably with other methods of treatment. However, the following should be noted.





GRAPH 2

ever, is the composite result of the failures and recurrences. Comparison of this curve with that reproduced from the paper of Holmes and Means, *et al.*,<sup>21</sup> shows a decided similarity in the two curves. The sole difference is that they reached the final basal rate in about four months, whereas in our series it was reached more slowly.

**Graph 2**—Curve 2 is a composite of 30 cases which were well controlled, and serves to show what may be expected as to the course of any case (in terms of B.M.R. changes) if the case is responding well to treatment. This series consisted of patients with marked toxicity, all mild cases being excluded. The resulting curve shows a steady fall with onset of treatment that continues for four months. At this point, a number of cases showed a slight rise and were given further therapy. A secondary and more gradual drop is noted, reaching, in about ten months, the final level of these cases with the B.M.R. averaging +11. In this group of cases which responded well to therapy, the B.M.R., in comparison with that of the entire series (Graph 1), shows that the initial drop is more sustained, approaching a low level at the end of the fourth month. The final basal level is also lower for this group.

**Graph 3**—This group consists of all the severe cases of exophthalmic goiter. Changes in the basal rate, pulse rate, and weight while under treatment are plotted.

**Pulse**—The pulse curve shows the most characteristic downward progression. The variations in this curve correspond to the changes in the B.M.R. curve.



GRAPH 3

**B.M.R.**—The B.M.R., which averaged +65 at the onset, shows a decided drop with the first course of treatment, with a tendency to remain elevated at a lower rate, about +33. Additional treatment lowers it further but the final level remains at about +23. Part of the elevated rate, at completion of treatment, must be ascribed to the inclusion of many cardiacs with hypertension who normally run elevated basals.

**Weight**—The weight curve reflects, in inverted form, the changes noted in the curve of basal readings. At times in the individual case the rising weight foreshadowed a beginning improvement, when pulse rate and clinical examination were still unchanged. It was observed that, with the onset of a respiratory infection, this gain in weight was rapidly lost. The absence of a more pronounced gain in weight for the entire group must be attributed to the fact that these were mostly outpatients suffering from poor home conditions, i.e., insufficient food and rest, and also greatly worried over their economic status (1930-1936). Hospitalization of many of these would result in more rapid control of the disease. This group also included a large number of cardiacs. These patients gain weight even with improvement of their thyroid condition, much more slowly than the uncomplicated thyroid cases. One should always make sure that the gain in weight of a cardiac with severe thyrotoxicosis is not due to fluid retention.

### Discussion

There is considerable variation in the percentage of cases of thyrotoxicosis



TABLE 4

| Author                                | Year<br>Pub<br>lished | Cases  | Cured<br>Per<br>cent | Much<br>Im-<br>proved<br>Per<br>cent | Total<br>Cured<br>and<br>Im-<br>proved<br>Per<br>cent | Failed<br>Per<br>cent | Re<br>curred<br>Per<br>cent | Remarks  |
|---------------------------------------|-----------------------|--------|----------------------|--------------------------------------|---|-----------------------|-----------------------------|--|
| Holmes and Means (22)<br>(U S A.)     | 1923                  | 44     | 27 3                 | 36 3                                 | 64  |                       |                             | All cases of exophthalmic goiter                       |
| Sielmann (23)<br>(Munich)             | 1923                  | 328    | 50 5                 | 44 5                                 | 95  |                       |                             | 12% were postoperative recurrences                     |
| Sanger (24)<br>(U S A.)               | 1926<br>to<br>1926    | 50     | 82                   | 6                                    | 88  | 8                     |                             | All cases of exophthalmic goiter                       |
| Barclay and Fellows (25)<br>(England) | 1927                  | 300    | 63 3                 | 25<br>20 to<br>30                    | 88 3<br>80 to<br>90                                   | 5                     |                             | 6 6% were lost sight of                                |
| Holzknacht (26)<br>(Vienna)           | 1928                  |        | 60                   |                                      |   |                       |                             |  |
| Groover <i>et al</i> (27)<br>(U S A.) | 1920                  | 305    | 88 8                 | 8 5                                  | 97 3  | 2 6                   | 1 3                         | 1 3% showed postirradiation symptomatic hypothyroidism |
| Pfahler and Vastine (28)<br>(U S A.)  | 1930                  | 326    | 57 5                 | 30 5                                 | 88  | 12                    | 0 7                         | 6 7% were postoperative recurrences.                   |
| Williams (29)<br>(U S A.)             | 1932                  | 200    | 80 5                 | 13 5                                 | 94  | 6                     | 4                           |  |
| Menville (30)<br>(U S A. and Canada)  | 1932                  | 10,541 | 66 2                 | 21                                   | 87 2  | 12 8                  | 8 4                         | Results of a questionnaire to radiologists.            |
| Don (31)<br>(England)                 | 1934                  | 93     |                      |                                      | 80  |                       |                             |  |
| Freid and Goldberg<br>(U S A.)        | 1939                  | 58     | 53 5                 | 26                                   | 79 5  | 13 5                  | 8 5                         |  |

controlled or greatly improved, reported from the various radiologic clinics (see Table 4) Our figure of 79.5 per cent corresponds closely to the carefully evaluated series reported by Don in 1934,<sup>31</sup> of 80 per cent cured or greatly improved. Despite careful follow-up, individualization in treatment, and excellent technical facilities, we were unable to achieve the high percentage of cures reported from some other clinics.

Five recurrences, a percentage of 8.5, were present in this series. We list as a recurrence the return and persistence of the toxic picture after it was once controlled. Reports from the literature are often vague as to the frequency of recurrence. It is difficult to classify these at times, since flare-ups will occur in cases under treatment that later are completely controlled. They may also occur in controlled cases and subside without additional treatment.

Menville<sup>30</sup> cites a percentage of failures of 12.8, in 10,541 cases collected by questionnaire among the radiologists of the U S A. and Canada. Our percentage of 13.5 is close to the general average.

The comparison of roentgentherapy with surgery is more difficult. The results from the highly organized centers of thyroid surgery in America are brilliant,

varying from 87 per cent to 99 per cent controlled or greatly improved. A great deal of thyroid surgery, however, is done casually outside of the above centers. In this connection, therefore, the report of Clark and Black from Grace Hospital in Detroit is valuable.<sup>32</sup> They noted 16 per cent cured, 40 per cent moderately improved, 34 per cent improved, and 10 per cent recurred, of 78 patients reviewed two and one-half years after operation. Reports from such groups, however, reach the literature only in isolated instances. This indicates that the results of thyroid surgery done by the general surgeon do not approach the results of the larger thyroid centers. On the basis of end results alone and disregarding mortality, the average case does at least as well and better with radiotherapy than with routine surgery.

In our series, there were no cases of death while under treatment. Likewise, no case went into thyroid crisis.

The variation in mortality rate of thyroid surgery is extreme. At the Lahey Clinic, a series of 3,422 cases operated on from 1926-1933 showed a mortality of 0.6 per cent.<sup>33</sup> Two-stage operations were done in one-third of these cases. At the same clinic, a series of 876 cases of toxic adenoma had an

operative mortality of 18 per cent. The average age of patients in this group was greater than in the first series. This factor probably accounts for the higher rate. Similarly, at the Crile Clinic, a series of 1,207 consecutive operations on patients under fifty had no mortality. In 1929 1,279 operations were done with a mortality of 0.86 per cent.<sup>34</sup> At the Mayo Clinic, the mortality was only 0.5 per cent for a series of 8,425 cases operated on from 1925 to 1933.<sup>44</sup>

Turning from the remarkable results of less than 1 per cent mortality, at outstanding surgical clinics, we have Maes report of 7 per cent mortality rate in a series of 275 cases occurring in a non goiter region.<sup>45</sup> Only half these cases had exophthalmic goiter. The series from Grace Hospital previously referred to, had a mortality rate of 6 per cent.<sup>35</sup> Abroad, the reported mortality figures are still higher. At the Edinburgh Infirmary, the mortality was 12.3 per cent for 285 cases, many of only moderate severity, operated upon during 1923-1933.<sup>41</sup> Romans' series of 900 cases with an operative death rate of 2.5 per cent is representative of the lower figures reported from England,<sup>46</sup> yet is considerably higher than the figures of Crile, Lahey etc. It is clear that a negligible operative mortality in this disease can be expected only from highly organized centers for thyroid surgery where a large number of toxic cases come to operation each year.

To quote Lahey: "Thyroid surgery is not dangerous surgery when it is under taken in organized groups. When, however, it is done as casual surgery, such as the surgery of hernia, fibroid appendicitis, etc. and without organization for its management, the mortality will undoubtedly be high."<sup>47</sup> Casual radiotherapy is subject to a similar criticism not as to mortality but from the standpoint of poor therapeutic results.

These comparisons indicate a distinct place for radiotherapy in the treatment of toxic thyroid disease. Although radiotherapy cannot match the brilliant results of the organized centers where this

type of surgery is best performed, it easily compares with the therapeutic results of casual surgery and has not the great criticism of the latter's mortality rate (6-12 per cent). There is an additional group which is distinctly the province of radiotherapy. This group includes cases refused operation by the surgeon because of a complicating disease, extreme toxicity, advanced age, or poor response to iodine. Further, some patients refuse operation and some come to radiotherapy after an operative recurrence. In a few instances, where the surgical risk was great after roentgen therapy the improvement was such that the patient could safely go on to surgery.

Summarizing, it can be said that a trial period of about four months should determine definitely the value of roentgen therapy in any given case. Our patients are not iodinated prior to treatment, so that this procedure can be reversed, should there be resort to surgery later. One great difficulty was the outpatient status of our cases, which did not permit control of nutrition, rest, and emotional factors, as is possible under surgery. The economic status of these patients made this a difficult problem during the period of our study. A period of hospitalization for severely toxic cases at the beginning of treatment would offer the best corrective of this problem.

### Summary

1 Fifty eight cases of toxic thyroid disease treated by radiation therapy are reported.

2 These cases were under observation for from one to seven years.

3 Thirty-one cases or 53.5 per cent were regarded as controlled.

Fifteen cases or 26 per cent were greatly improved.

Four cases or 7.0 per cent were moderately improved.

Eight cases or 13.5 per cent were considered failures.

Five cases or 8.5 per cent recurred.

4 A comparison of results from other radiologic clinics and from surgical clinics is included.

## References

- 1 Brown, W. L. *Lancet* 2 1155-1161 (Nov. 23) 1935
- 2 Marine, D. *J. A. M. A.* 104 2250-2255 (June 22) 1935
- 3 Marine, D. *J. A. M. A.* 104 2334-2341 (June 20) 1935
- 4 Harrington, C. R. *Lancet* 1 1199 (May 25) 1935
- 5 Krause, Paul, and Ziegler, Kurt. *Fortschr. a. d. Geb. d. Röntgenstrahlen* 10 126 (1906-1907)
- 6 Pfeiffer, C. *Beitr. z. Klin. Chir.* p. 48 (1906)
- 7 Rave, Franz. *Ztschr. f. Röntgenkunde u. Radiumforsch.* 13 37-53, 96-121 (1911)
- 8 Coulaud, E. *Compt. rend. Soc. de biol.* 87 1014 (1929)
- 9 Zimnitsky, B. S., Baskina, U. A., and Devirz, A. P. *Radiology* 27 68-74 (July) 1936
- 10 Murray. *Lancet* (Feb. 24) 1902
- 11 Brehm, W. *München. med. Wchnschr.* 24 (1924)
- 12 Pemberton, John de J. *South M. J.* 27 323-331 (Apr.) 1934
- 13 Holzknecht, Guido. *Radiology* 14 139-144 (Feb.) 1930
- 14 Joll, C. A. *Diseases of the Thyroid Gland With Special Reference to Thyrotoxicosis.* London, W. Heinemann, 1932
- 15 Walton, A. J. *Lancet* 2 267-273 (1923)
- 16 Gudernatsch, J. F. *Am. J. Anat.* 15 431 (1914)
- 17 Jeandelize, P., Lucien, M., and Parisot, J. *Compt. rend. Soc. de biol.* 66 942 (1909)
- 18 Hoskins, R. G. *Am. J. Physiol.* 26 420 (1910)
- 19 Blackford, J. M., and Freleigh, W. P. *Papers Collected from the Mayo Clinic* 8 507-512 (1916)
- 20 Marine, David, Manley, O. J., and Baumann, E. J. *J. Exper. Med.* 40 429 (Oct.) 1924
- 21 Holmes, G. W., Means, J. H., Porter, C. A., Richardson, E. P., and Starr, M. P. *Boston M. & S. J.* 295-298 (Aug. 14) 1924
- 22 Holmes, G. W. and Means, J. H. *Arch. Int. Med.* 31 303-341 (1923)
- 23 Sielmann, Richard. *Strahlentherapie* 15 450-457 (1923)
- 24 Sanger, Bertram J. *Arch. Int. Med.* 37 627-640 (1926)
- 25 Barclay, A. E., and Fellows, F. M. *Brit. J. Radiol.* 32 252-256 (1927)
- 26 Holzknecht, Guido. *Strahlentherapie* 30 605-612 (1928)
- 27 Groover, T. A., Christie, A. C., Merritt, E. A., Coe, F. D., and McPeak, E. M. *J. A. M. A.* 92 1730-1734 (1929)
- 28 Pfahler, G. E., and Vastine, J. H. *Am. J. Roentgenol.* 24 395-411 (Oct.) 1930
- 29 Williams, A. H. *Radiology* 18 553-563 (March) 1932
- 30 Menville, L. J. *Radiology* 18 568 (March) 1932
- 31 Don, C. S. D. *Brit. Med. J.* 1 746-748 (April 28) 1934
- 32 Walton, A. J. *Brit. M. J.* 1 83 (1928)
- 33 Smith, L. W., Clute, H. M., and Strieder, J. W. *Surg. Gynec. & Obst.* 46 325 (March) 1928
- 34 Crile, G. W. *Practitioner*, p. 661 (Dec.) 1930
- 35 Clark, N. E., and Black, I. *Arch. Int. Med.* 46 266-282 (1930)
- 36 Joyce, T. M. *Ann. Surg.* 94 563 (1931)
- 37 Don, C. S. D. *Brit. M. J.* 2 287-290 (1931)
- 38 Morley, J. *Brit. M. J.* 1 450 (1931)
- 39 Coller, F. A., and Potter, E. B. *Ann. Surg.* 94 568 (1931)
- 40 Moore, J. C. *Northwest Med.* 31 118 (1932)
- 41 Wallace, H. L., and Wevill, L. B. *Edinburgh M. J.* 40 598-615 (Dec.) 1933
- 42 Rice, C. O. *Arch. Surg.* 29 1047-1054 (1934)
- 43 Lahey, F. H. *New England J. Med.* 210 1016 (May 10) 1934
- 44 Pemberton, J. de J., and Haines, S. F. *Am. J. Surg.* 23 399 (March) 1934
- 45 Maes, V., Boyce, F. F., and McFetridge, E. M. *Am. J. Surg.* 24 232 (1934)
- 46 Romans, W. H. C. *Brit. M. J.* 1 87-90 (1933)

## Discussion

Dr Bertram J. Sanger, *New York City*—It is always stimulating to us, who have felt radiotherapy offers such a simple and efficacious approach to the treatment of thyrotoxicosis, to see a renewed interest in the subject. This excellent

clinical paper of Doctors Freid and Goldberg only demonstrates again what results can be obtained with a carefully followed group of patients.

This method of therapy does not offer complete recovery in all cases treated, nor, for that matter, does surgery. About 20 per cent of postoperative cases in our experience have come to radiotherapy. Relatively about the same percentage of cases that had a sufficient trial on radiotherapy were ultimately operated.

Up to the present time there is no very definite criteria to aid us in the choice of cases. Special studies, such as glucose tolerance tests, creatine excretion studies, etc., gave us no leads. From a long experience in the treatment of this disease we have finally come to feel that those cases do best where the struma is not too large and when the thyrotoxicosis has not existed too long. It is our general impression that nodular goiter (adenoma) and cases with substernal extension of the struma, should not have radiotherapy. The latter often swell somewhat after exposure to the roentgen-ray, and with pressure symptoms pre-existing offer a real hazard.

Our plan of treatment has been rather more fixed than that outlined in this paper. We have used a standard dosage, given directly over a single area that includes the whole struma. Treatments are given at intervals of three weeks, the number of individual treatments being determined by close clinical and metabolic checkups during the course of therapy. It is most important for good results to continue treatments at these regular intervals without any gaps, until the desired clinical and basal metabolic results have been obtained. There is, however, a cumulative effect of the roentgen-ray on the overactive thyroid mechanism, and for that reason we discontinue treatment when the basal is approaching the normal range. Follow-up observations are then made at shorter intervals and if the basal metabolism tends to rise, treatment is resumed guardedly until the patient is well.

One should not expect miracles from radiotherapy. Many clinicians, who are inexperienced in this type of therapy, get discouraged after three or four treatments if striking results have not been observed, and resort to surgery. In our experience eight to nine treatments have been the average number required for cure, the range having been from two to twenty-seven. Auricular fibrillation and decompensation need not interfere with continuing treatment, though adequate medical measures for their relief must be instituted. I want to emphasize again that iodine in any form should not be given during the course of treatment with radiotherapy, as it ob-

viously masks results and makes it impossible to evaluate the basal metabolism as a guide to further therapy.

This paper also stresses the necessity of careful follow up studies by the radiologist and clinician if good results are to be expected. The basal metabolism gives us an excellent index of thyroid activity and affords the best control mechanism for outlining treatment. As Doctors Fred and Goldberg have said gain in weight is one of the first signs of improvement and this occurs often before there is any appreciable change in the metabolic rate. Nervousness, sleeplessness, and tachycardia go later. Exophthalmus and excessive struma may entirely disappear although in successfully treated cases they may persist in some degree.

To sum up radiotherapy offers a simple, hazardless approach to the treatment of toxic thyroid disease. For the most part the patient can be treated ambulatory and continue at his economic usefulness. However, just as results are not as good with casual surgery as with surgery in centers specializing in thyroid disease so with radiotherapy. Treatment with this agent undertaken by radiologists at large in a casual way without intense interest and experience in the procedure will only lead to unsatisfactory results and to a further relegation of this very useful and successful therapeutic approach to the limbo of discarded therapy.

Dr A. L. Loomis Bell, *Brooklyn*—I am sure that we have all enjoyed hearing this very excellent presentation of the roentgen therapy of toxic thyroid disease particularly since the cases have been so carefully followed and the laboratory work so thoroughly covered.

This careful study has demonstrated very definitely that the results to be expected in radiation therapy are not quite as good as some surgical results, but equally as good or perhaps better than results obtained by surgeons inexperienced in the handling of thyroid cases. It therefore seems to me that the important consideration in the treatment of toxic thyroid disease is not the superiority of surgery or radiation therapy in the individual case nor the merits of either form of therapy in the hands of a given individual or group of individuals. It is rather the question with which the general practitioner is faced whenever one of his patients is suffering from toxic thyroid disease. This question is how is this patient to be treated? Shall I refer her for surgical or radiation therapy?

Dr. Freid and Dr. Goldberg have, I think answered this question by the statement of their results and the results of others with radiation therapy and the comparison of these results with those obtained by special surgical clinics and by the general surgeon. They have stated, and properly so that there is no form of treatment that gives results as satisfactory as those obtained by surgical groups specializing in the care of thyroid patients. Furthermore, they have shown that the results obtained by the general surgeon are not to be compared with those of the special surgeon particularly with regard to the mortality rate.

They have also stated that the results from radiation therapy are by no means constant and with this type of treatment as with any other are subject to wide variations depending upon the experience of the individual radiologist with thyroid therapy.

The general practitioner has been provided by these authors with an answer to the questions previously stated. If his patient is suffering from toxic thyroid disease and if a surgeon specializing in treatment of this disease is available it is obvious that he should refer the patient to this surgeon for operation. If however no such expert surgeon is available, he must determine whether or not there is a competent radiologist near at hand and refer the patient for radiation therapy. By so doing he is not risking the high mortality rate of general surgery and he is offering the patient a chance of improvement that is equally as great as that to be expected from the general surgeon. Furthermore if x ray therapy results in improvement that is not satisfactory the patient can be referred for surgery, and even if only slight improvement has taken place, the possibility of post operative complication should be at least proportionately reduced. Assuming that radiation therapy is entirely ineffective as of course it will be in some cases, surgery is still available, and the risk should be no greater than before the radiation therapy was undertaken.

In closing I wish to state that Dr. Freid and Dr. Goldberg deserve great credit for so fairly stating the value of radiation therapy in toxic thyroid disease, and showing that the choice of therapy to be used in the individual case depends more upon the quality of radiation therapy versus the quality of surgical therapy than upon judgment of the basic value of either form of treatment.

Finel But bring me one that is well worn.'

—*Medical World*

The salesman had sold the tyro physician about everything he needed for his new office. "And oh yes" he said "you'll need a doormat."

TABLE 2 — CASES OF SEVERE EXOPHTHALMIC GOITER

| Name and Sex | Age | On Admission |            | Degree of Exophthalmos | Type and Duration of Treatment                     | Basal Rate Following Therapy |            | Pulse Rate Following Therapy | Result                                      | Remarks  |
|--------------|-----|--------------|------------|------------------------|--|------------------------------|------------|------------------------------|---|--|
|              |     | Basal Rate   | Pulse Rate |                        |  | Basal Rate                   | Pulse Rate |                              |   |  |
| ♂<br>I M     | 39  | +56          | 122        | Poor                   | Moder  |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 6 wks<br>3 wks interval               | +39                          | 125        | Controlled                   | BMR +9<br>14 mo after onset of treatment    | Improvement set in following first course of treatment. Patient returned to work during his second course. The good result has been completely sustained over a follow-up period of 6 1/2 yrs.   |
|              |     |              |            |                        | 1,000 r D in 7 wks<br>11 mo interval               | +29                          | 122        |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 7 wks                                 | + 4                          | 96         |                              |   |  |
| ♂<br>A.Z.    | 30  | +58          | 115        | Poor                   | Severe   |                              |            |                              |   |  |
|              |     |              |            |                        | 2,000 r D in 8 1/2 wks.                            | +22                          | 104        | Controlled                   | BMR +9<br>6 mo after onset of treatment     | This case was referred for radiation following severe recurrence postoperatively. Goiter completely receded, exophthalmos markedly improved, no residual symptoms, basal normal follow-up 7 yrs.   |
| ♀<br>K.H.    | 34  | +90          | 150        | Fair                   | Mild   |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 6 1/2 wks<br>2 wks interval           | +50                          | 142        | Controlled                   | BMR +2<br>7 mo after onset of treatment     | Improved immediately with onset of treatment, and controlled with 2,500 r. The additional 500 r given later probably not necessary. Gland receded completely, and eyes became normal. Followed now for 6 yrs.  |
|              |     |              |            |                        | 1,500 r D in 7 wks<br>7 mo interval                | +14                          | 100        |                              |   |  |
|              |     |              |            |                        | 500 r D in 2 wks                                   | +11                          |            |                              |   |  |
| ♀<br>B.W.    | 22  | +88          | 160        | Poor                   | Severe   |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 15 wks<br>1 yr interval               | + 2                          | 114        | Controlled                   | BMR -2-3<br>11 wks after onset of treatment | This was a very severe case, refused operation elsewhere. With 1st course, she was controlled for 1 yr, but then developed mixed picture of mild toxicity and myxedema. Later toxicity increased and she was treated again. She has stayed well with normal basal for 5 yrs. |
|              |     |              |            |                        | 500 r D in 2 wks<br>7 mo interval basal rose to 32 | +27                          | 126        |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 11 wks<br>2 mo interval               | +48                          |            |                              |   |  |
|              |     |              |            |                        | 9,000 mehrs in 7 wks<br>6 mo interval              | +21                          |            |                              |   |  |
|              |     |              |            |                        | 2,400 mehrs in 1 wk.                               | +40                          |            |                              |   |  |
| ♀<br>L.G.    | 50  | +65          | 100        | Poor                   | Slight   |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 7 wks<br>6 wks interval               | +42                          |            | Controlled                   | BMR +7<br>9 mo after onset of treatment     | Improved after 1st course, normal after 2nd course. The gland did not recede entirely. After 2 yrs, basal and pulse still normal.  |
|              |     |              |            |                        | 1,000 r D in 5 wks<br>6 wks interval               | +28                          | 92         |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 3 wks<br>6 wks interval               | +20                          |            |                              |   |  |
|              |     |              |            |                        | 3,800 mehrs in 2 wks.                              | + 7                          | 98         |                              |   |  |
| ♀<br>S.A.    | 50  | +60          | 120        | Poor                   | Moder  |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 2 wks<br>4 mo interval                |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 2 1/2 wks                             | +30                          | 88         | Controlled.                  | BMR +25,<br>10 mo after onset of treatment  | Patient is a case of moderate hypertension. Gland receded, nutrition improved. Residual elevated BMR believed due to hypertension. Good result 2 yrs. follow up.   |
| ♀<br>F.G.    | 31  | +54          | 140        | Poor                   | Moder  |                              |            |                              |   |  |
|              |     |              |            |                        | 1,000 r D in 3 wks<br>10 wks interval              | +39                          | 120        | Controlled                   | BMR +2-4<br>10 mo after onset of treatment  | Good result 2 1/2 yrs follow up.   |
|              |     |              |            |                        | 1,000 r D in 3 wks<br>2 mo interval                | +33                          | 96         |                              |   |  |
|              |     |              |            |                        | 200 r D in 2 wks                                   | 0                            |            |                              |   |  |

|      |    |     |      |      |        |   |                              |                            |  |   |
|------|----|-----|------|------|--------|---|------------------------------|----------------------------|--|---|
| M.C. | 34 | +80 | 100  | Poor | Moder  | 10 000 mchrs. in 7 1/2 wks  | +62                          | 100                        | Greatly improved, BMIR +44, 8 mo. after onset of treatment   | Patient referred for radiation following post-operative recurrence. Improvement in hyperthyroidism. Patient gained greatly in weight; blood recoded; controlled. Follow-up 20 mo.   |
| I.B. | 43 | +84 | 124  | Poor | Moder  | 1 000 r D in 3 mo.  | +60                          | 08                         | Greatly improved, BMIR +50 3 mo. after onset of treatment  | On admission, patient was fibrillating and decompensated also hypertensive. Weight, tremor, exophthalmos, and cardio status improved. She refused further treatment, in favor of operation. Our impression is that treatment should have been more intensive  |
| G.R. | 28 | +70 | 110  | Poor | Mild   | 9,000 mchrs. in 6 wks.<br>3 1/2 yrs. interval basal rose to 47 from 0<br>200 r M. in 2 1/2 wks.<br>3 mo. interval<br>3 000 mchrs. in 3 wks<br>7 mo. interval basal rose to 36<br>400 r M. in 2 wks.<br>2 mo. interval<br>620 r M. in 4 wks. | +43<br><br>+50<br>+56<br>+33 | 108<br><br>74<br>110<br>80 | Greatly improved, later recurred, BMIR +12, 6 mo. after onset of treatment                           | Patient is sister to case B.W. She shows marked liability and a tendency to mild recurrence under severe economic strain. Always improved with treatment. Follow up 6 yrs   |
| N.H. | 29 | +60 | 120  | Poor | Moder  | 6,800 mchrs. in 5 wks.<br>1 wks. interval<br>2,100 mchrs. in 1 wk.<br>Basal dropped to 0<br>Interrose later to 30<br>after 16 mo.<br>800 r D in 1 wk<br>3 mo. interval<br>1 000 r D in 3 wks  | +28<br>+30<br><br>+41<br>+43 | 88<br>88<br><br>02<br>80   | Improved, later recurred, BMIR -3, 1 yr after onset of treatment                                     | A severe cardiac well controlled with earlier treatment. When symptoms recurred 1 1/2 yrs. later and did not respond quickly to treatment operation was advised   |
| M.C. | 33 | +06 | Fib. | Poor | Moder  | 1 000 r D in 6 wks.<br>4 mo. interval<br>1,000 r D in 2 wks<br>8 1/2 mo. interval<br>20 000 mchrs. in 9 1/2 mo  | +63<br>+73<br>+35            |                            | Improved greatly, BMIR +22 2 yrs. after onset of treatment<br>BMIR 0 4 yrs. after onset of treatment | A case of severe hypertension and arterio-sclerotic heart disease, with frequent decompensation, and fibrillation. He did best under the prolonged radium treatment. His residual symptoms are all cardiac. Final moderate elevation of basal believed due to his hypertension. Follow up 6 1/2 yrs |
| M.R. | 35 | +66 | 120  | Poor | Mild   | 600 r D in 9 1/2 wks.   | +60                          |                            | Improved   | This patient improved clinically but insufficient treatment was given. Follow-up nasals-factory. Patient gained weight and strength rapidly. Would not return for BMR   |
| L.R. | 50 | +65 | 104  | Poor | Marked | 1 000 r D in 5 wks.<br>3 mo. interval basal rose<br>1 000 r D in 5 wks.<br>6 mo. interval<br>1 000 r D in 6 wks.  | +65<br>?<br>+40              | 124<br><br>124             | Improved, BMIR +37, 16 mo. after onset of treatment  | A very severe cardiac fibrillating, hypertensive, and frequently decompensated. The measure of toxicity hard to determine. BMIR now +27. Greatly improved but not controlled. She has refused operation. Follow-up 3 1/2 yrs.   |
| J.H. | 51 | +85 | 116  | Bad  | Marked | 1 000 r D in 8 wks.   | +89                          | Fib                        | Failure  | A case of severe myocardial disease and severe Graves. She was not hospitalized and did not return for follow-up or further treatment. Died in decompensation 4 mo. later   |

TABLE 2—CASES OF SEVERE EXOPHTHALMIC GOITER (Continued)

| Name and Sex                 | Age | On Admission |           | Degree of Exophthalmos | Type and Duration of Treatment | Basal Rate Following Therapy  | Pulse Rate Following Therapy                     | Result   | Remarks  |
|------------------------------|-----|--------------|-----------|------------------------|--------------------------------|---|--|--|--|
|                              |     | Basal Rate   | Nutrition |                        |                                |   |  |  |  |
| ♂<br>J C                     | 26  | +68          | 120       | Fair                   | Slight                         | 520 r M in 4 wks.<br>1 mo interval<br>520 r M in 8 wks  | +64 116  | Failure  | Patient uncooperative. Followed 4 mo He went to operation  |
| ♂<br>B D                     | 32  | +60          | 104       | Poor                   | Marked                         | 520 r M in 4 wks<br>7 1/2 wks interval<br>300 r M in 3 wks<br>9 wks interval<br>520 r M in 3 wks.<br>9 wks interval<br>470 r M in 3 wks<br>6 wks interval<br>520 r M in 4 1/2 wks | +57 112<br>+41 112<br>+50 86<br>+40 92<br>+48 98 | Failure  | A case originally uncontrolled by operation<br>Patient also received 1,000 r D to right and left pituitary fields. Slight temporary recession. Surgery advised again   |
| MODERATE EXOPHTHALMIC GOITER |     |              |           |                        |                                |   |  |  |  |
| ♀<br>T S                     | 21  | +49          | 115       | Poor                   | Slight                         | 520 r M in 5 wks  | +18 96   | Controlled. BMR -8-4,<br>3 mo after onset of treatment         | A patient who was treated with iodides and improved. However on recurrence she was referred for radiotherapy and responded promptly and well Has stayed well in spite of severe working conditions, attack of typhoid, respiratory infections, and emotional maladjustment. Followed 4 1/2 yrs, basal normal |
| ♂<br>S E                     | 47  | +25          | 90        | Poor                   | Moderate                       | 18,000 mchrs in 4 mo<br>3 mo interval<br>2,700 mchrs in 2 wks.  | -4 78  | Controlled   | Improvement maintained now for 3 1/2 yrs.  |
| ♀<br>R. L.                   | 35  | +41          | 110       | Good                   | Marked                         | 2,200 mchrs. in 1 wk.<br>2 yrs interval<br>1,000 r D in 5 wks.<br>1 yr interval<br>520 r M in 5 wks.  | +20 80   | Greatly improved. BMR<br>+20, 8 mo after onset<br>of treatment | A case of moderately severe Grave's who did well on 1st course of treatment. Gland receded with therapy Then emotional shock (husband's death) and respiratory infection brought on a recurrence. Treated again but follow up interrupted, response unknown Follow-up 3 yrs.                                 |
| ♀<br>A. B.                   | 47  | +48          | 132       | Fair                   | Slight                         | 2,000 r D in 6 mo<br>1 mo interval<br>500 r D   | +14 Fib<br>+33                                   | Greatly improved BMR<br>+14 7 mo after onset<br>of treatment   | Treatment was overprotracted Patient often in fibrillation She gained a good deal of weight and was greatly improved. (BMR fluctuated, although general condition greatly improved) Extreme psychic factor here. Follow-up 1 1/2 yrs   |
| ♂<br>W S.                    | 22  | +40          | 126       | Fair                   | Marked                         | 1,000 r D in 4 wks<br>2 mo interval<br>2,500 r D in 2 wks   | +64 112  | Failed   | Worked 10 hrs daily while under treatment<br>Went to operation 6 mo after admission here   |

## SEVERE HYPERMETROPIA

|      |    |     |             |      |   |   |            |            |  |   |
|------|----|-----|-------------|------|---|---|------------|------------|--|---|
| M.V. | 44 | +57 | 106         | Fair | 0 | 10,000 mchrs. in 9 wks.<br>0 wks. interval<br>10,500 mchrs. in 3 mo.  | +39<br>+34 | 83<br>92   | Controlled. BMR -2<br>13 mo. after onset of<br>treatment       | A case with severe adrenal features, (diarrhea, weight-atrimony, osteoporosis, etc.) well controlled by radiation. The toxicity was well tolerated to remain underweight and nervous. Basal now normal. Follow up 5 yrs. 9 mo.  |
| J.S. | 37 | +66 | 130         | Fair | 0 | 1 000 r D in 4 wks.   | +48        | 110        | Controlled. BMR +17,<br>3 mo. after onset of<br>treatment      | Continued to improve after 1st course basal normal. Follow up 14 mo then lost sight of  |
| J.S. | 49 | +60 | 128         | Good | 0 | 1 000 r D in 11 wks.  | +10        | 80         | Controlled. BMR +10,<br>3 mo. after onset of<br>treatment      | He developed mild myxedema 2 mo. after treatment and this has persisted to date a period of 6 1/2 yrs. This is the only case with such small dosage developing and maintaining a myxedema picture. Recently he developed a pernicious anemia. This may explain residual features.                           |
| B.P. | 25 | +60 | 126         | Fair | 0 | 9 000 mchrs. in 4 wks.<br>2 mo. interval<br>8 000 mchrs in 2 1/2<br>wks.  | +42<br>+15 | 120<br>100 | Controlled. BMR +7,<br>4 mo. after onset of<br>treatment       | Controlled for 4 yrs., then recurred and controlled again with 650 r M. to the gland  |
| R.M. | 53 | +83 | 160         | Poor | 0 | 525 r M. in ~ wks.  | +40        | 96         | Greatly improved. BMR<br>+15 7 mo. after onset<br>of treatment | A case with hypertension, nephritis, and diabetes, who never controlled in the control of her diabetes. No clinical complaints referable to thyroid. Follow up 2 yrs.   |
| A.S. | 33 | +59 | 110         | Poor | 0 | 1 000 r D in 4 wks.<br>2 1/2 mo. interval<br>500 r D in 1 wk.<br>6 mo. interval<br>1 000 r D in 2 mo  | +25<br>+35 | 100<br>86  | Greatly improved. BMR<br>+9 14 mo after onset<br>of treatment  | A case improved by radiation therapy iodides, and rest, and fairly well controlled. Difficult external circumstances tend to produce slight temporary elevation in BMR. Follow up 2 1/2 yrs.  |
| M.F. | 56 | +75 | 140         | Poor | 0 | 4 000 mchrs. in 3 1/2<br>wks.<br>7 wks. interval<br>3 420 mchrs. in 3 wks.<br>1 yr. interval<br>1 000 r D in 4 wks.<br>11 mo. interval<br>520 r M. in 1 mo.<br>2 1/2 mo. interval<br>260 r M. in 2 wks. | +50        | 90         | Partially controlled   | Her last basal is now +20 pulse 78. It took a long time for her to reach this level. The slow result can be attributed to poor home condition of patient (husband out of work and difficult to get on with lack of food and rest) it is hard to estimate the role of therapy in this case. Follow-up 4 yrs. |
| R.D. | 55 | +73 | 120<br>Fib. | Poor | 0 | 1,000 r D in 3 wks.<br>9 mo. interval<br>520 r M. in 2 1/2 wks.   | +70<br>+84 |            | Failed   | A cardiac in frequent decompensation. Some response to digitalis and diuretics. Follow up 1 yr Did not return   |



TABLE 2 —CASES OF SEVERE EXOPHTHALMIC GOITER (Continued)

| Name and Sex             | On Admission |             | Degree of Exophthalmos | Type and Duration of Treatment | Basal Rate Following Therapy   | Pulse Rate Following Therapy  | Result   | Remarks   |
|--------------------------|--------------|-------------|------------------------|--------------------------------|--|-------------------------------|--|---|
|                          | Age          | Pulse Rate  |                        |                                |  |                               |  |   |
| ♀ A P                    | 25           | +60 112     | Good                   | 0                              | 1,000 r D in 4 wks. 1 mo interval<br>1,000 r D in 2 1/3 wks. 6 mo interval<br>1,000 r D in 4 wks | +50 128<br>+64 130<br>+60 132 | Failed   | This patient did not respond to therapy. When operation was advised, she did not return. It was learned that she was later admitted to Central Islip as a case manic depressive psychosis. Her thyroid picture there fluctuated. After 2 yrs she was discharged with thyroid picture partly controlled. |
| MODERATE HYPERTHYROIDISM |              |             |                        |                                |  |                               |  |   |
| ♀ T H                    | 38           | +26 97      | Fair                   | 0                              | 750 r D in 2 wks.  | +13 86                        | Controlled BMR +13 1 mo after onset of treatment       | Clinically more severe than basal rate indicates. Responded promptly. Follow-up 8 mo  |
| ♀ E B                    | 37           | +46 88      | Good                   | 0                              | 1,000 r D in 4 wks 8 mo interval<br>1,000 r D in 4 wks   | +17 93<br>+7 88               | Controlled BMR +6, 4 mo after onset of treatment       | She made practically complete recovery with 1st course. Because of slight symptoms and bruit over gland 8 mo later a second course was thought advisable. Good result, entirely normal. Follow up 1 yr  |
| ♀ Y L                    | 60           | +38 122 Fib | Poor                   | 0                              | 1,500 mchrs in 4 wks 2 mo interval<br>350 r D  | +7 90                         | Controlled BMR +7, 5 mo after onset of treatment       | Cardiac (enl heart hypertension, fibrillation basal pleurisy) controlled with small amt of therapy. Cardiac status unchanged. Follow up 1 yr. Last basal +10  |
| ♀ E P                    | 30           | +27 92      | Good                   | 0                              | 1,000 r D in 2 mo  | +4 90                         | Controlled BMR +3, 2 mo after onset of treatment       | A case of toxicity following iodine. Toxicity easily controlled with one course of irradiation.   |
| ♂ O D                    | 34           | +32 118     | Good                   | 0                              | 520 r M in 4 wks   | +36 108                       | Controlled BMR +4, 4 mo after onset of treatment       | His basal fell to +4, pulse to 86. All symptoms have cleared up and he has gained 20 lbs in wt. 1 yr follow up  |
| ♀ T D                    | 52           | +56 104     | Good                   | 0                              | 520 r M in 4 wks 3 mo interval<br>520 r M in 3 wks   | +53 94<br>+25 82              | Controlled BMR +25 3 mo after onset of treatment       | A patient with long standing goiter (10 yrs.) whose toxic features cleared up promptly with therapy 1 yr follow up  |
| ♂ A L                    | 57           | +45 94      | Poor                   | 0                              | 1,000 r D in 5 wks 3 yr interval<br>650 r M in 8 wks 1 mo interval<br>520 r M in 4 wks           | +25 90<br>+40 110<br>+54 84   | Greatly improved BMR +25 8 mo after onset of treatment | With radiation and with treatment of the complicating duodenal ulcer he gained wt and toxicity subsided. Basal tended to remain partly elevated (+26). Although followed since he has had a recent recurrence following relapse, but toxicity is slight. 3 1/2 yrs follow up                            |



TABLE 2—CASES OF SEVERE EXOPHTHALMIC GOITER (Concluded)

| Name and Sex | On Admission |            | Degree of Exophthalmos | Type and Duration of Treatment | Therapy                      |                              | Result   | Remarks   |
|--------------|--------------|------------|------------------------|--------------------------------|------------------------------|------------------------------|--|---|
|              | Age          | Basal Rate | Pulse Rate             |                                | Basal Rate Following Therapy | Pulse Rate Following Therapy |  |   |
| ♂<br>C A     | 44           | +20        | 82                     | Good                           | 0                            | 80                           | Controlled BMR +10, 3 mo after onset of treatment        | A mixed case, with mild toxicity and hypertension. Iodine caused partial involution of the enlarged gland. Follow up 3 yrs  |
| ♂<br>A I     | 53           | +6         | 80                     | Fair                           | 0                            |                              | Controlled BMR 0, 5 wks after onset of treatment         | A case primarily of autonomic imbalance Wt. and strength have steadily risen. Follow-up 4 1/3 yrs.  |
| ♀<br>Y S     | 44           | +17        | 88                     | Fair                           | +16                          |                              | Controlled BMR +7 6 mo after onset of treatment          | Weight rose, symptoms receded Follow-up 1 yr  |
| ♀<br>J S     | 34           | +12        | 72-100                 | Fair                           | +1                           | 64                           | Markedly improved BMR -7, 8 mo after onset of treatment  | Labile type. 1 yr follow-up   |
| ♀<br>A G     | 22           | +20        | 98                     | Fair                           | +16                          | 96                           | Markedly improved BMR +8, 2 mo after onset of treatment  | Nervousness receded, pulse rate lowered Questionable hyperthyroidism. Follow up 2 yrs   |
| ♀<br>A P     | 38           | +17        | 122                    | Poor                           | +8                           | 90                           | Markedly improved.                                       | Though a mild case, she was undoubtedly toxic. She was improved by treatment. Picture complicated by T B C of intestine. She developed T B C peritonitis and died. Follow up 8 mo |
| ♀<br>A C     | 31           | +18        | 120                    | Fair                           | +4                           | 78                           | Markedly improved BMR +4, 9 wks after onset of treatment | Basal rate and pulse restored to normal, but nervousness remained Follow-up 3 1/3 yrs   |
| ♀<br>G C     | 20           | +16        | 127                    | Fair                           | 0                            | 104                          | Greatly improved. BMR +8, 2 mo after onset of treatment  | Many features of autonomic imbalance  |
| ♀<br>D S     | 43           | +10        | 100                    | Good                           | +1                           | 112                          | Failed   | Symptoms were primarily those of pressure which were not relieved. She went to operation  |
| ♀<br>M. S    | 41           | +26        | 110                    | Good                           | 2                            | 23                           |  | BMR later rose to +34 Result poor   |

\*\* Measurements are in air.  
 + M—refers to moderate therapy using 140 kv  
 + D—refers to deep therapy using 200 kv

# PHYSICAL MEASURES IN THE TREATMENT OF NEUROLOGIC CONDITIONS

RICHARD KOVÁCS, M D , New York City

PHYSICAL treatment of neurologic disorders has made great strides since the time when simple forms of hydrotherapy were practiced for sedative or tonic purposes and the primitive electrical currents—the galvanic and faradic—were recommended without much rhyme or reason and often as a convenient means to disguise suggestive therapeutics. There is now available an almost bewildering multitude of newer physical agents, such as low frequency currents, diathermy and short-wave diathermy, static electricity artificial fever therapy, ultraviolet radiation, whirlpool baths, therapeutic pools, and exercise apparatus. The potency and controllability of these measures cannot be doubted once a proper conception of their primary physical and secondary physiologic effects is established and once they are linked up with a definite diagnosis and a general line of therapeutic endeavor.\* They serve in the large majority of cases as adjuvants in giving comfort, decreasing the use of sedative medication, and maintaining or restoring function, and in a few instances they serve for treatment direct to the underlying cause. A comprehensive table of Veraguth<sup>1</sup> presents the changes in the nervous system and their relation to problems of treatment.

## Neuritis and Neuralgia

In neuritis with its great variety of etiologic factors, as shown in the table of Cobb and Coggeshall,<sup>2</sup> a large variety of therapeutic approaches has been established. Physical measures applied in con-

nection with efforts directed to remove the exciting cause serve for constitutional effects in generalized neuritis and for relief of pain and paralysis in localized neuritis. The dividing line between *neuritis* and *neuralgia* is at times not quite definite and from the standpoint of physical therapy the same principles of procedure apply.

In *polyneuritis* of a rheumatic or toxic type general heat measures—electric cabinet baths, hot baths—are indicated for stimulation of metabolism and increased elimination." Artificial fever therapy—the rationale of which will be discussed later on—is justified in severe or resistant types and has been favorably reported on recently by clinicians (Bennett and Cash).<sup>3</sup> Only mild fevers of 103 to 105 F for two to four hours each for two to six treatments are indicated. Due care is essential to prevent burns because of anesthetic parts of limbs.

In *localized neuritis* caused by trauma or pressure physical measures should be instituted from the outset while a search for the exciting cause is carried on. Rest and relaxation of the affected area by bed rest, light splinting, or a sling are simple and effective measures. It is indeed quite a question whether in acute neuritis with very severe pain, the relief obtained by any form of office treatment is worth the effort and risk of going about to procure it. Home treatment by simple physical measures or portable apparatus now helps to solve the problem. Mild local heating is the main standby for giving relief from pain. Its action is two-fold because it not only brings about direct sedation of sensory nerve endings but also relieves the exaggerated defense mechanism of muscle spasm. This action

\* This presentation will confine itself to those conditions in the treatment of which physical agents play or should play an important role. It will present some of the newer methods and trends of physical treatment but because of limitation of space, will not include details of technique.

explains why more penetrating forms of heating—diathermy and short-wave diathermy—are more effective than hot compresses and bakers. The intermittent use of radiant heating from a simple heat lamp or infrared generator may serve for home use. In very acute cases sedative medication often cannot be avoided, but can be tapered off as relief by physical measures takes hold.

In subacute cases heat treatment may be followed or supplemented by mild counterirritation of the skin, for this purpose the Oudin or monoterminial high-frequency current, the plain galvanic current or ionization with vasodilating drugs, or local ultraviolet in mild sunburning doses may be employed. Mechanical measures such as gentle massage and muscle exercising currents are best reserved for selected chronic cases where the exercise of flabby muscles and the breaking up of fibrotic nodules or perineuritic adhesions may be indicated.

*Bell's palsy* due to neuritis of the facial nerve is of special interest because of the favorable possibilities of early treatment by physical means. It has been shown that edema in a nerve trunk may interrupt the passage of nerve impulses along the axons, especially if the edema happens to be at a point at which the nerve is passing through a bony canal (Cobb and Coggeshall).<sup>2</sup> The effect of exposure of the facial nerve brings on edema that blocks the facial canal near the point of exit and presses on the facial nerve. This etiology offers the possibility of a quick absorption of the edema by suitable physical measures, as has been amply proved by clinical experience of the author and that of other clinicians. It also explains the number of spontaneous recoveries within a few days or weeks, with absence of the reaction of degeneration in the so-called light cases. On the other hand, in untreated or originally severe cases, secondary involvement of the nerve fibers occurs due to continued pressure and, according to the extent of the nerve degeneration, a condition lasting from a few weeks to a year and lead-

ing possibly to permanent atrophy of some of the smaller muscles may ensue. On the basis of these facts, the immediate application of "decongestive" measures in cases of Bell's palsy seems rational and the usually quick and uncomplicated recovery of cases treated from the onset makes it evident that the former dictum, that no treatment and especially "no electricity" should be administered during the early period, is obsolete.

Treatment should begin in all cases with a superficial thermal measure such as the radiation from a small luminous heat or infrared generator. An exposure of from twenty minutes to one-half hour also serves to relieve pain if present. The comfort given by diathermy or short-wave diathermy is even more marked. The measure of choice for "decongestion" is the static-wave current, besides the electrokinetic effects under the electrode it also brings about painless contraction of all affected muscles. Its often repeated effect in clearing up the condition in a comparatively short time may be explained by the dispersion of the congestive infiltration around the nerve trunk. In a consecutive series of some 12 cases treated from the beginning, the author has not seen one develop the reaction of degeneration. Strapping or other means to prevent sagging of the affected side should be employed at once. In the absence of a static apparatus mild stimulation by a surging low-frequency current may be used.

If the patient reports late, i.e., after ten days, electrical testing is important for the prognosis of the probable duration, for it will allow differentiation between light cases lasting a few weeks and moderately severe cases in which recovery may take from three to nine months. In these severe cases physical treatment consisting of a thermal measure followed by electrical muscle stimulation by a low frequency current—preferably the slow sinusoidal—will comfort the patient and tend to maintain some of the contractility of the paralyzed muscles. It will not prevent atrophy of some of the intrinsic mus-

cles and neither will it prevent the occurrence of contracture in a small percentage of cases. If a tendency shows toward contracture, instead of electrical stimulation, only mild heating and gentle stroking massage should be employed.

Brachial neuritis, intercostal neuralgia, and the sciatic syndrome may receive physical treatment along the general lines already described. In alcoholic polyneuritis weakness of the lower extremities usually responds well to muscle stimulation by a surging faradic current.

In *trifacial neuralgia* physical treatment as a rule is not very satisfactory. A variety of measures are recommended but there are no controlled statistical studies available as to their effectiveness. Theoretically, deep heating by short-wave diathermy should be able to relieve arterial spasm—one of the suspected main factors in the condition. In *intercostal neuralgia*, radiant heat or diathermy combined with ultraviolet irradiation or the Oudin current for counterirritation and, in early cases, with the static brush discharge are usually helpful. In localized neuritis of the external cutaneous nerve of the thigh known as *meralgia paresthetica* there is presumably a fibrositis, pressure on the nerve as it passes through a fibrous tunnel of the fascia lata. Radiant heating followed by mild Oudin application usually relieves this condition in a few treatments.

Pressure upon *spinal nerve roots* with subsequent radicular symptoms is still debated by some clinicians in the recent literature. Wentworth<sup>4</sup> in discussing the treatment of back injuries, states that one may accept that the posterior primary division of the spinal nerve winds closely over the ligamenture of the articulation, and that any inflammation of the joint may institute radiating pain, but that there is direct pressure upon the nerve roots appears improbable, there would seem to be ample space for the nerve in any spinal position. Oppenheimer<sup>5</sup> on the other hand believes that the occurrence of neuritic pain suggesting spinal arthritis has often been found due to

segmental neuritis resulting from compression of the nerve roots by narrowing of the intervertebral foramina. The author has been able in a fairly large number of cases referred with such symptoms to give relief by deep thermal measures—diathermy and short-wave diathermy—followed by massage and static sparks. In a number of the cervical cases the application of head traction or at least suitable bracing is essential.

### Fibrositis and Myositis

Fibrositis has been defined as the reaction of the fibrous supporting tissues of the body to extraneous poisons, which may be bacterial or toxic. It occurs in persons who may be constitutionally disposed to such a reaction. This reaction may be acute or chronic and may include inflammatory changes in muscles, tendons, bursas, and nerve sheaths. Fibrositis in the sheath of a nerve trunk must be differentiated from toxic neuritis. This now more and more generally accepted conception of fibrositis, accounts for many borderline cases between medicine and neurology. It also offers a potent field for the employment of physical measures for general treatment to counteract the constitutional factors and for local treatment to relieve pain and stiffness. The general measures are the same as those described for neuritis.

In the local treatment attention should be directed to an effort to remove the cause of local symptoms. The fibrositic nodule, which is considered a tissue reaction to the circulating toxins and appears histologically similar to the Aschoff bodies described in the myocardium. Recent contributions, including those from the Mayo Clinic (Krusen,<sup>6</sup> Slocumb<sup>7</sup>), corroborate the fact, empirically established long ago, that it is possible in the chronic state to rub out the nodule by manipulative treatment, kneading massage. The author found contractile forms of electrical currents such as faradic or static effective. The diagnosis of a fibrositis may be made on the basis of typical pain and stiffness,

following exposure to cold or strain or coming on insidiously in a patient with a rheumatic tendency. In other cases, one may locate in the relaxed structures typical bands or nodules, often acutely tender. When the nodule is situated in muscle fibers, pressure upon it will often induce a reflex contraction of the muscles.

In the constitutional treatment of fibrositis and myositis, general thermal measures are of paramount importance. It is the instinctive desire of these rheumatic sufferers for a general regime of elimination, relaxation, and upbuilding, which fills many of the health resorts. Unfortunately, in this country, medically well-directed health resorts are not yet as numerous as they should be.

### Nerve Injuries

The importance of physical treatment in nerve injuries is well established. Pollock<sup>8</sup> states that "when a primary or secondary suture is indicated immediately, physiotherapeutic treatment must assist the operative procedure. When it is felt advisable to defer the operative procedure, physical therapy must be initiated promptly to the end that when the nerve regenerates, it will activate a mechanism capable of adequate movement." Contrary to an erroneous conception existing in some minds, there is no electrical test available that will ascertain whether or not there is a separation of nerve fibers to such an extent that spontaneous regrowth is impossible. In case of penetrating injuries the surgeon must decide on purely anatomic considerations whether to make an immediate nerve suture or not.

Among physical measures indicated in nerve injuries the intelligent use of splinting is one of the most important ones. It is regrettable to see, every so often, a person with a drop foot or drop wrist referred for electrotherapy in whom no splinting of any sort has been employed. Even the most painstaking form of electrical exercise applied for a short period daily, cannot possibly overcome the potential harm caused by the con-

tinuous drag of the antagonists when proper splinting is neglected. On the other hand, splinting should not be kept up indefinitely, as prolonged immobilization in itself will cause periarthral joint changes and muscle atrophy. Many patients have been incapacitated by the fibrosis that has resulted from the prolonged and uninterrupted use of splints.

Other physical measures indicated are as follows: "massage to improve the nutrition of the parts, to prevent adhesions of scars and fibrosis and to conserve the bulk of the muscles, passive movements to prevent deformity from shortening, interphalangeal fibrosis, ankylosis of joints, active exercise to conserve the unparalyzed muscles, to stimulate circulation, to educate synergistic muscles to assume the function of paralyzed muscles, electrotherapy to conserve the vitality, prevent complete atonia and increase the contractility of paralyzed muscles, and hydrotherapy and thermotherapy to assist in nutritional conservation and to facilitate other methods of treatment." (Pollock)

The judgment of an experienced physician usually combined with the skill of an expert technician is required to carry on the physical treatment of a severe nerve injury through its various stages. Attention must be drawn to the danger of burns following the application of heating measures by unskilled hands over an area with lessened or totally lacking sensibility. In the average case of nerve injury in extremities the warm whirlpool bath appears as the safest heating measure.

### Degenerative Conditions

In this group one may include such conditions as general paresis, locomotor ataxia, and multiplex sclerosis in which there occurs degeneration of the highly differentiated elements of the central nervous system at times preceded by a primary inflammation. No restoration of these elements by any form of treatment can be expected. Hydro- and thermo-

therapy, massage, exercise, and various physical agents can be usefully employed for symptomatic relief or for general roborant effect.

In recent years hyperpyrexia by physical means has added a potent new weapon. Its rationale is well established in conditions caused by such thermolabile organisms as the different strains of gonococci. So far as syphilitic affections are concerned the high thermal death point of the *spirochaeta pallida* does not allow for such simple interpretation. Investigators like O'Leary<sup>9</sup> and Neymann<sup>10</sup> conclude that fever therapy affects the stimulation of the natural defensive mechanism of the body, but the nature of these biologic phenomena is at present still unknown. In contrast to the sustained very high temperatures indicated in gonorrheal infections, in many of the central nervous-system affections only moderately high fevers (from 104 to 105 F) sustained from three to five hours and repeated once or twice a week are indicated.

In *general paresis* a recent survey by Neymann<sup>10</sup> shows that out of 908 cases treated by a number of clinicians by electropyrrexia, 28 per cent showed complete remission and 35 per cent were improved, 25 per cent died as a result of the treatment. Fever therapy by physical means is less hazardous and there appears to be no other proved effect of malarial inoculation except that of producing fever. Hinsie and Blalock<sup>11</sup> observed 326 patients for ten years and found most favorable clinical and serologic results in those paretics who received either form of fever therapy followed by chemotherapy.

In *locomotor ataxia* results similar to *paresis* have been reported with fever therapy, a tabulation by Neymann shows 54 to 60 per cent improvement in 90 cases. The author has also been able to achieve about the same percentage of improvement in a small series of cases. It seems advisable that fever treatment should be used mainly in progressive cases that appear clinically and biologi-

cally resistant to the usual specific treatment, it appears useful in relieving tabetic pains especially in those cases that are characterized by repeated shooting pains or gastric crises, it is also recommended in tabetic optic atrophy.

In *multiple sclerosis* a fair percentage of improvement by fever treatment has been observed by several clinicians, including the author. Hence, in spite of the well known spontaneous remissions in this condition, the routine use of a series of fever treatments seems indicated.

One may append here the striking results reported in recent years by fever therapy in *chorea minor*. Sutton and Dodge<sup>12</sup> found that it was possible to cut short an attack of chorea with one or two treatments, especially when cases were treated early regardless of their severity. Endocarditis appears not to be a contra-indication to fever treatment.

### Hemiplegia

Physical treatment has a definite place in the treatment of hemiplegia following arterial obstruction or hemorrhage, it serves for the early rehabilitation and re-education of affected extremities, for hastening convalescence and restitution, and for contributing to mental ease. In the first week of hemiplegia while the patient may be still in bed, the application of radiant heat to the affected arm or leg will comfort the paralyzed limbs. Faulty positions of the joints with subsequent contractures are prevented by simple splinting measures and frequent changes in position. Passive movements should be performed early and be accompanied by gentle stroking massage. As soon as some muscular power has returned, the patient should be instructed to re-educate the antagonistic movement at the joints, thus counteracting the tendency to contracture.

In the subacute stage, one can endeavor to use physical measures for improving the vasomotor and sensory disturbances and the spastic paralysis. Graduated muscular contractions by a surging low-tension electric current combined with



gentle massage and suitable exercise serve for this purpose. For relieving paraesthesias and other disturbing sensations, the monoterminial high-frequency (Oudin) current applied through a condenser electrode to the limbs is quite useful. In institutions equipped with therapeutic pools efforts have been made to re-educate and relax the spastic muscles by carefully graduated exercises in the warm-water tank.

In late years an increasing amount of work has been done with physical agents directed to the brain in the subacute and chronic stage of hemiplegia. The author<sup>13</sup> has for many years found clinical benefit from cerebral galvanism in hemiplegics complaining of headache and dizziness, not due to persistence of high blood pressure. The results may be due either to a direct influence upon the circulation of the brain or to reflex stimulation from the periphery. Martucci, *et al*,<sup>14</sup> have found considerable benefit from cerebral diathermy while French authors have reported a favorable influence on contractures, gait, and speech by the new method of short-wave diathermy. Finally, Bourguignon<sup>15</sup> and Cross<sup>16</sup> have reported definite improvement in chronic hemiplegia by "transcerebral" ionization with calcium chloride. The ingenious method of Bourguignon consists of passing a galvanic current through the closed eyelid toward the occiput. This observer claims that calcium ions are introduced down the optic nerve to the base of the brain and diffuse through the brain tissue. Such reports from widely divergent sources would indicate the need of controlled clinical studies to evaluate this method of electrical treatment to the brain.

## Conclusions

The review of the large variety of physical measures available in neurologic conditions indicates that they form a valuable adjunct in treatment. Many of these measures can be applied by the general practitioner and the neurologist, others are reserved for those espe-

cially skilled and equipped, or for institutional use. In all instances, however, it is important that physical measures be employed on the basis of a working diagnosis and with a definite conception of their physical and physiological effects. Likewise in all cases proper technic of application is essential for safety and efficiency. For the sake of the more extended and rational utilization of these important agents, it is highly desirable that there be a close cooperation between the diagnostic work and controlling observation of the neurologist and the clinical judgment and technical knowledge of the physical therapist.

2 East 88th Street

## References

- 1 Veraguth, O. *Schweiz. Med. Wchnschr.* 65 6 (1935)
- 2 Cobb, S., and Coggeshall, H. C. *J. A. M. A.* 103 21 (1934)
- 3 Bennett, A. E., and Cash, Paul T. *Arch. Phys. Therapy* 19 69 (1938)
- 4 Wentworth, E. T. *New York State J. Med.* 37 1914 (1937)
- 5 Oppenheimer, A. *Ann. Surg.* p. 428 (1937)
- 6 Krusen, F. H. *Arch. Phys. Therapy* 18 687 (1937)
- 7 Slocumb, C. H. *J. A. M. A.* 107 534 (1936)
- 8 Pollock Lewis. *Principles and Practice of Physical Therapy*, Hagerstown, W. E. Prior & Co. 2 Ch. 7 (1933)
- 9 O'Leary, Paul. *J. A. M. A.* 109 1163-1166 (1937)
- 10 Neymann, C. A. *Artificial Fever Produced by Physical Means. Its Development and Application*. Charles C. Thomas Springfield, Ill. 1937
- 11 Hinsie, L. E., and Blalock, J. R. *Serology in General Paralysis*, First Int'l Conf. Fever Therapy, New York, 1937
- 12 Sutton, Lucy Porter, and Dodge, Katherine. *G. Fever Therapy in Chorea and in Rheumatic Carditis*, First Int'l Conf. Fever Therapy, New York, 1937
- 13 Kovács, R. *Electrotherapy and Light Therapy*, 3rd ed., Philadelphia, Lea & Febiger, 1938
- 14 Martucci, A. A., Hadden, G. B., and McGlone, B. *Arch. Phys. Therapy* 18 7 (1937)
- 15 Bourguignon, G. *Rev. d'actinol.* 5 180 (1929)
- 16 Cross, H. A. *Electricity in Therapeutics*, London, C. Lockwood and Son, Ltd., p. 240 (1936)

## Discussion

Dr Joseph E. J. King, *New York City*—In discussing this paper I shall limit my remarks for the most part to organic lesions for which neurosurgical procedures have been done or are anticipated. The use of electric cabinet baths, hot baths, artificial fever therapy, diathermy, low-frequency currents, etc., in the treatment of neuritis, neuralgia, Bell's palsy, myositis, degenerative conditions, etc., have been described by Dr Kovács, and are fairly well known, but I have had no experience in these conditions worth mentioning.

I wish to emphasize what the speaker has said regarding the use of physical measures in the

broad sense to peripheral nerve lesions, mono- or hemiplegias, or pareses associated with brain lesions—tumors, abscesses and those of traumatic origin—and paraplegia and quadriplegia associated with spinal-cord tumors, cysts and trauma.

The first most outstanding emphasis or impetus toward physiotherapy in my experience was in the neurosurgical services in the World War. The number of peripheral nerve injuries and paralyses by gunshot and other trauma was large. This afforded a splendid opportunity for organization of large and at that time rather well-equipped departments of physiotherapy, both as regards equipment and personnel. Occupational therapy, which is but a form of the subject under consideration, also was developed to a high degree.

I heartily agree with the speaker's quotations from Pollock, especially that "physical therapy must be initiated promptly (and I might add continued for a long time) to the end that when the nerve regenerates it will activate a mechanism capable of adequate movement." This is most important. It is no surgical triumph to effect a good nerve suture and neglect the muscle, ligaments, and joints of the extremity supplied by the nerve, resulting in a useless face hand, arm, foot, or leg.

One of the most outstanding examples of implicit faith on the part of both patient and therapist was the almost interminable visits of the patient to the department of physical therapy for treatment following neurolysis of a nerve for partial paralysis or nerve suture after complete division. This treatment was continued for months with no apparent improvement from day to day. Still it was continued. Observation of the large number of patients with these injuries at Cape May and Fox Hills proved the efficacy of physical measures which are now so much improved.

Splinting has been referred to. This is most important to prevent stretching or overstretching of the paralyzed muscles by the opposing unaffected group or groups. Attention has been called to the fact that these splints should be readily removed for the purpose of using the various forms of physical therapy and that they should not be left in position for an uninterrupted long time. The damages produced by prolonged and continued splinting may decidedly outweigh the advantages. The most suitable splints used by us were devised at Cape May by Dr. Robert Buerki, now Medical Director of the University Hospital, Madison, Wisconsin. I refer to those used for paralyses of nerves of the upper and lower extremities. All, with the ex-

ception of the airplane splint were made of bronzed steel wire, about No. 9 size and were light and yet strong enough to maintain proper position. They were fitted with cuffs, straps and buckles and could be removed as easily and quickly as a glove. Some other splints are so heavy and cumbersome that it is almost like a tug-of-war to get them on and off.

Massage, electrical stimulation, manipulation, baths of all kinds, mechanical apparatus, etc., have proved effective in maintaining the nutrition of the parts, preventing fibrous ankylosis, and atonia. However, active motion or attempts at active motion in an incompletely paralyzed muscle or groups of muscle are of the greatest value in restoration of function. The controlled use of various kinds of tools in a workshop is to be commended as well as other exercises, especially in swimming pools where the drag against gravity is lessened.

What has been said about peripheral nerve injuries likewise applies to the plegias and pareses associated with brain and cord lesions. I do not know of any form of physical therapy that benefits the patient suffering from the *douloureux* or major trigeminal neuralgia.

The intelligent use of physical measures in the cases with which we have to deal is heartily indorsed.

Dr. John H. Nolan, *New York City*—We are indebted to Dr. Kovács for his sane and conservative presentation of his subject. All that we can expect of physiotherapy is the relief of pain and conservation of muscle tone.

Generally speaking, doctors have very little faith in the management of nervous diseases—partly because they have been taught to believe that nerve tissue once diseased cannot regain function and partly because of inadequate instructions in physiotherapy.

It is true that nerve tissue cannot regenerate—but how is anyone to know that there is complete destruction? We all know that many disorders characterized by inflammation, hemorrhage, thrombosis, etc., have an accompanying edema that disturbs function quite as much as actual destruction. While this pressure edema is subsiding, many things can be done to keep the paralyzed muscles in optimal condition for regaining function, such as splinting, light massage, passive motion.

Dr. Kovács says that the dividing line between neuralgia and neuritis is at times not quite definite. This should not be. Neuritis is unfortunately a name given to almost any kind of a pain on the surface of the body, whether of nerve, muscle, or bone. To be brief, neuritis

is a disorder characterized by pain, sensory disturbances, muscular weakness, and paralysis. Neuralgia is an irritative phenomenon with paroxysmal pain along the distribution of anatomic nerve supply. Neuritis requires bed rest and soothing baths. Neuralgia requires diathermy and counterirritation.

At this point I would like to emphasize the value of early diagnosis in the treatment of neuritis. On July 2, 1935, a 40-year-old man presented himself complaining of numbness in the hands and feet of two weeks' duration, which was gradually becoming more troublesome. He was accustomed to consume a considerable amount of alcohol.

On examination briefly, he presented a slight ataxia of the left hand, the right being normal. The deep reflexes showed only the absence of the Achilles. There was weakness in extension in both hands as well as grasp. There was no disturbance in the muscle status, except extreme tenderness in the calf of the muscles. Sensory examination showed a glove and stocking type to touch, pain, and temperature in the hands and feet, as well as absence of vibration sense. The cranial nerves presented no abnormality, a Wassermann test was negative.

When I told him that he had a beginning alcohol neuritis and advised that he would have to discontinue his drinking, he assured me that this he could not do, that he would rather be paralyzed than stop. I informed him that I would do my best and advised that he take a well-known preparation of vitamin B in adequate amounts and take his chances. He also was instructed to take a vitamin B tablet with each drink.

He returned July 11. The vibration sense had returned, sensation to pin was normal. On July 17 there was no further change. On August 6 he was well, sensory examination was normal and the Achilles reflexes were present. Since that time I have seen him on frequent occasions and he has never complained of his trouble, and in my opinion he is practically well, in spite of the fact that he is drinking more than ever. He still takes his vitamin B.

Dr Kovács' experiences with the early treatment of Bell's palsy is of paramount importance, because he has shown us that the earlier the treatment is given the better are the results.

As far as fibrositis and fibromyositis are concerned, the best results that I have seen have been brought about by the clearing up of local infections and hyperthermia, to illustrate a patient, who for ten years had been totally disabled because of fibromyositis and had been considered for a long time having peripheral

neuritis, became perfectly well after the removal of infected tonsils and fever treatment. He was able to return to his occupation.

I think that fever treatment of paresis is well established, but naturally the results depend on treating the case in early phases. This applies to tabes also.

Our results at the City Hospital have been disappointing, probably because our cases are all of such long duration. I think that if it were possible to see tabes in its incipency much could be done. I have never seen any benefit in our wards obtained in optic atrophy. Hemiplegia tends to improve of itself but needs splinting, light massage, braces, and especially re-education as soon as the patient is able to cooperate. Occupational therapy is very useful and not only encourages the patient to use the crippled parts, but gives him a new outlook on life.

I have not seen any improvement in multiple sclerosis or any of the degenerative diseases, but feel that it is worth while to try fever therapy under hospital supervision. Finally, I believe that x-ray therapy is especially useful in pituitary adenoma, to retard malignant growth after operations, and to relieve intractable neuralgic pains.

Dr Ralph T. Collins, *New York City*—I have been very much interested in the presentation by Dr Kovács. I think he has covered the subject quite well, but I would like to make a few remarks relative to this subject. At the Neurological Institute we have a large physical therapy department consisting of fifteen technicians. This department has been, and is, a very popular and busy department. Our experience with neurologic conditions is wide and varied. I agree with Dr Kovács' remarks as far as he goes. We have not had the same brilliant results with hyperthermia in multiple sclerosis as he has had. In those cases of peripheral neuritis that have dysesthesia we have found that warm whirlpool baths have been very comforting. Where there is motor disability in these cases, we also use the galvanic motor-point stimulation. We have found that most cases of Parkinsonism are relieved of their rigidity, tremor, and general tension by a combination of a Nauheim bath and general massage. All types of myelitis usually require physical therapy in the form of superficial heat, electro stimulation of the muscles, and exercise. A typical facial neuralgia has yielded to the Oudin current and a fast sinusoidal current. In many cases of root pains from a vertebral arthritis, the symptoms are relieved by some type of penetrating heat.

and massage. We do a great deal of peripheral nerve work following nerve suture in the form of diathermy through and through the scar galvanic motor point stimulation of the muscles involved and superficial heat and exercise. A great deal of our work consists in re-education of patients who have had cerebral vascular accidents and those who have had cerebral and spinal-cord tumors removed. Of course those patients from whom a meningioma has been removed deserve more concentration upon re

education. Our fever therapy Department is very active and we are treating many conditions of the nervous system. At the present time, we are experimenting in the use of cerebral galvanism for the relief of lumbar puncture, headache, and encephalographic headache with good results. In closing I wish to stress that in about 95 per cent of our patients we are treating symptoms and not the neurologic lesion. This percentage should be reduced in the future.

---

#### SECRETARY ASSISTANT TO THE PHYSICIAN

She sits still in her chair  
And listens to voices from everywhere  
She knows all the gossip she knows all the news  
She knows who is happy and who has the blues  
She knows of our sorrows she knows of our joys  
She knows all the girls who are chasing the boys  
She knows of our troubles she knows of our strife.  
She knows every man who talks mean to his wife.  
She knows every time we are out with the boys  
She knows the excuses that each man employs  
If the Assistant told just half what she knows  
It would turn all our friends into bitter foes

She would sow a small wind that would soon be a gale  
Engulf us in trouble and land us in jail  
She would start forth a story that gaining in force  
Would cause half our wives to sue for divorce  
She would get all our churches mixed up in a fight  
She would turn all our days into sorrowing nights.  
In fact she could keep the whole town in a stew  
If she told but one-tenth of the things that she knew

—Anon



AH AHH AH

—Hysteria

# WORKMEN'S COMPENSATION

## Rules and Regulations Promulgated by the Industrial Commissioner Covering Chapters 258 and 930 of the Laws of 1935 Amending Section 13 of the Workmen's Compensation Law

*Rule 1* Medical Compensation Boards shall pass upon the applications of physicians within a reasonable time and notify the Industrial Commissioner of their action. If any such board fails to recommend that a physician be authorized to render medical care under Chapter 258 the physician may appeal to the Industrial Council as provided in clause (G) of Subdivision 4 of Section 10-A of the Labor Law, and the Council thereafter will have sole jurisdiction.

*Rule 2* Removal of physicians from panels and revocation of licenses of medical bureaus. Section 13-d.

The recommending compensation board or the Board of the County Medical Society in a county where any authorized physician has removed his office, shall investigate, hear, and determine all charges of professional or other misconduct by any authorized physician or by any licensed compensation medical bureau or laboratory under the rules and procedure prescribed by the Industrial Commissioner as follows:

(a) The physician or medical bureau accused of misconduct shall be given twenty days' notice of the charges in writing, including a bill of particulars setting forth the specific section and subdivision of the law violated, and the time, date, and place of the hearing.

(b) Careful records and minutes shall be kept of the hearing.

(c) These records, together with the report of the Board of the Medical Society or other Board, with its findings shall be submitted to the Commissioner.

Appeals filed by physicians and medical bureaus with the Industrial Council shall be referred to the subcommittee designated by the Industrial Council to

ascertain the facts and report its findings to the Council for final action.

(a) A physician or medical bureau may file an appeal with the Industrial Council from the decision of the Medical Society or other Board.

(b) A physician or medical bureau appealing and the Medical Society or other Board whose decision was appealed from, shall be notified in writing, indicating the time, date, and place of hearing.

(c) The physician or medical bureau may be represented by counsel.

(d) Accurate stenographic or stenotype minutes of the hearing shall be kept for the file of the Commissioner and Industrial Council.

*Rule 3* When a physician, in association or in copartnership with another physician or physicians, or through another physician or physicians as employees or agents, maintains and operates one or more offices principally for the treatment of injured claimants under the Workmen's Compensation Act, he shall apply for a compensation medical bureau license.

*Rule 4* All reports, except Form C-104 filed by attending physicians and specialists, must be verified before a Notary Public or a Commissioner of Deeds to insure their value as prima facie evidence in a compensation case.

*Rule 5* All specialists and consultants shall submit a report of their findings in triplicate, one copy to the Industrial Commissioner, one to the attending physician, and one copy to the employer or insurance carrier. If a specialist acts as attending physician, he shall file 48-hour and C-4 reports with the employer or carrier and with the Industrial Commissioner.

**Rule 6** All medical reports filed by attending physicians and specialists must contain the authorization certificate number and code letters

**Rule 7** When it is necessary for the attending physician to engage the services of a specialist, consultant, or a surgeon, or to provide for physiotherapeutic procedures costing more than \$25 00 or to provide for x ray examinations or special diagnostic laboratory tests costing more than \$10 00, he must secure authorization from the employer or insurance carrier or the Industrial Commissioner

E G—When the total fees for physiotherapeutic treatment approach the sum of \$25 00 the physician shall file an additional C-4 report and request authorization as prescribed in Section 13-A-5

This rule also applies to hospitals, specialists, consultants, and surgeons who are actually engaged to perform such services.

If telephone request for such authorization is made, it should be confirmed by letter. If such authorization is not forthcoming or is not denied within five working days or if such denial is not justified medically or otherwise, the special services required for the patient's welfare should be proceeded with on the ground that authorization has been unreasonably withheld.

Such authorization is not required in an emergency under the provisions of Section 13 A 5

**Rule 8** The authority of an employer for the services of a specialist in excess of a \$25 00 fee applies only to the necessity for such services, but the choice of such specialist is entirely within the jurisdiction of the injured worker

**Rule 9** When it is in the interest of the injured employee, and where an x ray is required and it is impossible to secure the services of a qualified x-ray specialist, the Board of the local County Medical Society may designate a specially qualified individual to take x ray pictures under the supervision of the at-

tending physician. The attending physician, however, shall render a bill for such service to the employer. This in no way, however, deprives the employer or insurance carrier from having other x-ray pictures taken if they so desire.

**Rule 10** A physician authorized to treat workmen's compensation cases, when requested to supersede another physician, must, before beginning treatment of such patient, make reasonable effort to communicate with the attending physician to ascertain the patient's condition. The superseding physician must also advise the attending physician of the name of the person who has requested him to assume care of the case and state the reason therefor. If the second physician cannot contact the attending physician, and the claimant's condition requires immediate treatment, the said physician should advise the doctor previously in attendance within forty-eight hours that he now has the patient in his care. The preceding physician shall supply the succeeding physician with a complete history of the case.

**Rule 11** In the event of a serious accident requiring immediate emergency medical aid, an ambulance or any physician may be called to give first aid treatment.

**Rule 12** A registered physiotherapist may treat workmen's compensation cases at his own office or bureau when the case is referred to him by an authorized physician. The authorized physician should, however, give written directions to the physiotherapist as to the kind of treatment to be rendered and the number of treatments to be given. These directions must be given in writing by the physician and shall constitute a part of the record of the case.

**Rule 13** Bills for x-rays and consultations shall be submitted for payment directly to the employer or carrier by the specialist rendering the service. These services must be authorized in writing by the physician in attendance.

**Rule 14** Physicians treating claimants

in hospitals may secure the signature of claimant for authorization to obtain copies of any necessary hospital records

**Rule 15** The physician in attendance in public hospitals must be the judge as to when the "emergency status" of the case has terminated. In case of a dispute the matter shall be referred to the Compensation Board of the Medical Society of the county in which the hospital is located for immediate decision.

**Rule 16** Medical inspectors of insurance companies shall be admitted to hospitals or other institutions where injured employees are confined, upon proper identification, for the purpose of complying with Section 13-j.

**Rule 17** Hospitals and dispensaries shall not operate a medical bureau or clinic for the purpose of rendering medical care and treatment to compensation cases. Hospitals and dispensaries shall not render medical care and treatment to ambulatory compensation cases except for the emergency treatment.

**Rule 18** No license is required for an employer to operate a first-aid station for emergency treatment, but no subsequent treatments are to be rendered by any one, other than a qualified physician on the minimum fee schedule basis.

**Rule 19** No advertising matter of any nature on compensation work, by or on behalf of authorized physicians, medical bureaus, or laboratories shall be permitted.

**Rule 20** No insurance company or self-insurer may reduce the size of NOTICE TO EMPLOYEES (FORM C-105) which is to be posted in all places of employment covered by the Act, unless such permission is granted on application to the Industrial Commissioner.

**Rule 21** Section 13-F-2 applies only to the physician selected by the claimant to treat him as provided by Section 13-A.

Such physicians are entitled to a fee for attendance at a hearing when subpoenaed by any party in interest or when directed to do so by a referee or when produced by an insurance carrier or employer.

When such physician is a general practitioner his fee shall be \$10.00 plus mileage (outside New York City) and a fee of \$5.00 for each additional case on which he testifies at the same appearance.

When such physician is a specialist and is so designated and qualified and has examined, consulted, or treated under his specialty, his fee shall be \$25.00 plus mileage (outside New York City) and a fee of \$12.50 for each additional case on which he testifies at the same appearance.

In exceptional cases involving specialists' testimony, the matter may be referred to the Industrial Commissioner who may consider the allowance of a higher fee.

On and after February 1, 1938, in the event of failure of such doctor to complete and submit a verified C-4 report as required by Subdivision 4 of Section 13-A or when the content of such report is vague, misleading, or otherwise incomplete, such doctor shall not be entitled to an attendance fee, unless otherwise directed by the Industrial Commissioner.

**Rule 21-A** A physician who testifies at hearings or examines claimants or participates in examinations for evidential material for compensation case hearing purposes only may accept fees for such services from claimants, employers, or carriers.

**Rule 21-B** Any physician, specialist, or consultant involved in the medical care and treatment of a compensation case must appear at a hearing when subpoenaed and shall give his testimony for the prescribed fee set forth in the rules and regulations adopted by the Industrial Commissioner.

This ruling does not deprive the specialists and consultants from applying to the Industrial Commissioner for a higher fee as provided by Rule 21.

In the event of failure to comply with this regulation, such physician, specialist, or consultant will be held responsible to the Industrial Council.

**Rule 22** Hospitals shall render bills

for board and room accommodations, medical and surgical supplies, and nursing facilities.

Hospitals may render bills for x-ray, physiotherapeutic, anesthesia, and pathologic services when rendered by or under the supervision of salaried physicians on the staff

The names and qualifications of all physicians and persons rendering services for which charges are made by hospitals must be included in all bills and all medical and x ray reports shall be promptly filed with the employer or its insurance carrier and the Department of Labor

### **Rules Governing Recommending of Authorized Physicians by Insurance Carriers and Employers and the Procedure to Be Followed by Medical Inspectors and Consultants**

*Rule 23* The supplying of names of authorized physicians by insurance carriers to their policyholders is in contravention to Section 13, as amended by Chapter 258 of the Laws of 1935. Such policyholders and all employers may secure a list of all authorized physicians in the vicinity of their places of business by applying to the Industrial Commissioner of the Department of Labor

*Rule 24* Any physician who acts in the capacity of medical inspector for an insurance carrier or employer in the case of an injured employee under the care of another physician shall not participate in the treatment of said injured employee except in the operation of a rehabilitation clinic or bureau under Section 13-j of the Law. Nothing herein contained affects the right of transfer as provided in Section 13-a(3)

*Rule 25* When a medical examination is had under Section 13 a(4) it shall be by a qualified physician at a place reasonably convenient to the claimant and in the presence of the claimant's physician, if in the latter's opinion his presence is necessary. A duplicate copy of all notices of requests for examinations must be sent to the attending physician

*Rule 26* No physician designated by an insurance carrier or an employer as a consultant in the case of an injured employee, shall subsequently participate in the medical or surgical care of said injured employee, except with the written consent of the injured employee and his attending physician. Nothing herein contained affects the right of transfer as provided in Section 13 a (3)

### **Rules Governing the Licensing and Operation of Compensation Medical Bureaus**

*Rule 27* The character and frequency of accidents, the number of employees in a given plant, and the availability of qualified medical care in the immediate vicinity of the place of employment should be considered in relation to the authorization of an employer's compensation medical bureau.

*Rule 28* The bureau should be located in the industrial plant or in the immediate vicinity

*Rule 29* The question of the necessity of the presence of a physician during working hours, or the availability of a

physician at stated hours should be determined by an inspection of the plant to ascertain the nature of the hazards and the frequency of accidents

*Rule 30* The bureau shall be well housed with sufficient space, light, and air and shall conform to reasonable sanitary requirements. Proper facilities in the form of personnel for assistance in emergencies, instruments, sterilizers, dressings, and drugs shall be available at all times and in amounts proportionate to the size of the plant and the number of employees. Such facilities shall be



adequate for more than mere emergency care and for the more severe type of industrial injury

*Rule 31* A bureau license may be given for a stated project which, because of the hazards of the project and the frequency of accidents, requires continued medical care and such license shall be for the life of the given project only. In such cases all employees of all sub-contractors shall be covered by the license

*Rule 32* No license shall be issued to an employer to cover any but his own employees except as indicated in Rule 31

*Rule 33* No license is required to operate a first-aid station by an employer of labor. Such first-aid or emergency

station should be properly equipped for first aid in accordance with the type of hazard encountered at the particular place of employment

*Rule 34* Form C-105, a notice of the rights of an injured employee and the responsibilities of the employer, shall be posted in each compensation medical bureau and first-aid station

*Rule 35* All compensation medical bureaus when operated by summer camps and other institutions, wherein such camps and institutions are operating for profit, shall be charged a license fee of \$25.00 per annum for the operation of such medical bureaus which are in operation for six months of the year or less

March 1, 1939

Frieda S Miller  
Industrial Commissioner

## DIAGNOSIS OF MANY DISEASES POSSIBLE THROUGH THE EYE

Such conditions as diabetes, high blood pressure, inflammation of the kidney, syphilis, tuberculosis, intracranial or brain pressure, and optic nerve inflammations often may be diagnosed through the eye long before their presence might otherwise be suspected, Arthur J. Bedell, M.D., Albany, N.Y., says in *The Journal of the American Medical Association* for March 18.

"The background of the eye is the stage on which many of the tragedies of life are enacted," Dr. Bedell states. "By careful repeated examination, early changes can be detected and steps taken to eradicate or diminish the ravages of destructive forces."

This examination is made with a simple ophthalmoscope, an instrument containing a mirror arrangement making possible the examination of the inside of the eye.

The author points out that the recognition of the signs of the above conditions is possible

through the major blood-vessel changes and alterations which may be found in the fundus or back part of the eye.

Although the correct interpretation of all of the gross pathologic signs of the above diseases is a lifetime study, Dr. Bedell believes that, when sufficiently trained, every physician should at least be able to recognize them and by constant daily application should steadily improve his diagnostic capacity.

"The ocular fundus is one of the most available regions in the entire human body for the recognition of incipient, advancing, and destructive processes," Dr. Bedell declares.

"To the initiated, examination of the fundus discloses important clinical signs, which, when gathered together, form part of the life record of the patient. From the knowledge gained by the study of thousands of such reports, accurate prognostic as well as diagnostic conclusions can be drawn."

## COMMITTEE IN SPECIALTIES

A Joint Committee in Specialties, comprising pathologists, anesthetists, radiologists, and physical therapists, has been formed in the State

of New York with Dr. M. J. Fein as chairman and Dr. Madge C. L. McGuinness as secretary. About 1,500 Society members are represented.

## PRESIDENTIAL ADDRESS

### Educating the Public

WILLIAM A. GROAT M D , Syracuse New York

SOME thirty five years ago Grover Cleveland, then ex President of the United States and Professor of Law at Princeton, addressed the Annual Meeting of the Medical Society of the State of New York. He made a plea to the medical profession, asking them to tell the people the truth about medicine that they might see what doctors had done and could do. He said as the keynote of his address 'Tear off this veil of mystery.

We can speculate as to what might have been in his mind. We can think of him as an old man perhaps already marked by the finger of death. Surely he wanted the mystery of life, the mystery of death, the mystery of illness and of mental conflicts solved. Perhaps he saw as the great mission of medicine the sweeping aside of all mysteries surrounding the fundamental things of life and living of death and dying. More and more in the last decade or so medicine has been attempting to do this very thing. It has been attempting to educate the public as to what we know about the mysteries of the human body and its ailments, the functional activities and vital processes. Yet the mysteries remain as the veils are removed. Should we not consider in this hurly burly of things how much confusion is due to faulty methods and misdirected efforts? Surely there is something wrong. Either we are educating the public too much or we are not educating it enough.

Public health education, what should it be and how might it be carried on? Let us consider as examples what the public asks and what it receives in the way of education in a few other professions. Do engineers, with whom we are frequently rated, try to inform the public and educate the public in engineering or do they keep pretty much within the

profession? It is evident that they choose to discuss such things with other engineers and the associated professions, figuring that only those who have the proper background can comprehend and make useful applications.

How about the law and the lawyers? Do they give lectures, hold meetings, gather groups together for luncheons in order to have them understand about the law and the administration of it? Much of the medical information we give so freely and informally is falling on unaccustomed ears, and the energy may be wasted. At least some of it appeals only through the curiosity engendered. There seems to be an undiscovered horizon within us urging us to seem to solve and then immediately tell. The smaller part is simple easily understood healthy, and constructive.

Little by little over a period of years so-called welfare and public-health welfare lay groups have taken up what they call health education. First these groups were introduced as assistants. Now they come as dispensers of knowledge quite independent of the medical profession. These people have absorbed a certain amount of information and make their living dispensing it. It is called a new profession whereas it is a piece of an old one. Organizations backed by funds collected from the public in various direct and indirect ways, seek to popularize the principles, demonstrate the values, organize the administration, and in some instances control public health work.

They accept the researches of medical science, sometimes on their own quick appraisal. In their enthusiasm they now and then accept something as the last word in a way that startles the trained mind. They readily oversell and make bothersome what should be simple,

practical ideas By themselves and of themselves they do no research, support no charity, but they declare themselves to be convinced that medical science is sound, and accept as their mission the demonstration of that fact to other lay people They teach that large nonprofessional staffs, augmented technical personnel, larger buildings, and greatly increased expenditures for public-health purposes would give greater efficiency and pay in happiness and in dollars and cents In their philosophy the law of diminished returns would be automatically repealed Yet they offer no proof They would act as representatives and publicists, organizers, and selling agents for health and welfare ideas They are entrepreneurs, middlemen loading the cost of medical care

If this goes through according to prospectus, medicine through government restrictions and lay influences will be as elaborately mismanaged and thoroughly misunderstood as the Childrens' Crusade!

Dr Ray Lyman Wilbur, former President of the American Medical Association, as Chairman of the Committee on the Cost of Medical Care, a committee composed of practitioners, public-health officials, directors of institutions, economists, and eminent citizens, in 1927 said

"Medicine stumbles ahead as a great social factor led by a few far-seeing individuals, prodded by a lot of uplifters, legislators, and enthusiasts, and with a well-developed defense complex against those changes which come to all growing things The practice of medicine can only be fully understood by those who have lived it, and yet, unless the profession bestirs itself, great changes in medicine will take place through the instigation and pressure of outsiders The golden thread of human understanding and of close personal relations between doctor and patient may be left out of the new social fabric which is being woven right under our eyes" Twelve years ago—and they are still weaving with golden thread

Continuing, he declares "We must face the facts, we must study them to see

what they mean, we must guide ourselves by what they tell us, not by traditions and thinking that belong on the retired list."

In 1939 we can say for ourselves that it is the duty of the medical profession to meet changing conditions, recognize social developmental ideas, and demonstrate its ability to assimilate them and lead the procession We are the source of medical knowledge, the ultimate distributors of the bounties conferred It is the law The growth of ideas has enlarged the scope without necessarily curtailing the possibilities of the profession Medicine should continue to assist in the proper development of the thing which it itself has so laboriously created, and ideas for further development need not deny privilege or endanger the health of the people We desire that the fabric be woven right under our eyes

Some lay promoters have a loose way of telling about medicine and giving out medical information We should not imitate them The physician in going to the laity is still bound by professional experience and custom Neither is static. Modifications that are sound endure and come as a slow development, not by sudden ructions In his professional presentations the doctor should obey the rules of research, be cautious of confounding theory and speculation with fact, and in presenting facts present all of them He should be extremely cautious in reaching dogmatic conclusions Of course he cannot understand the free style of the propagandist, education by publicity and high-pressure salesmanship methods as applied to public-health questions by lay writers The lay mind sees the story, the trained mind the fact. Medical publicity by medical organizations is now an accepted fact When under direction of organized medical bodies, broadcasts and releases can be made without sacrifice of principle or danger to the truth There is much we might do to curb the enthusiasm of those well-intentioned lay organizations that would, if left to themselves, promise more than medical science could fulfill

Health education must not use methods that arouse fear or attempt to subjugate by fear. We can waste a great deal of time, as Christian has told us in his address "Some Limitations in Preventive Medicine"\* at the New York Meeting of the American College of Physicians April 4, 1938, talking to the public about things for which no preventive measures are known. These are abstractions with no germ from which anything worth while can grow. The fear of the unknown can destroy the art of living.

Public health education has had a rapid growth, but to have a healthy growth and bear fruit worthy of the husbandman the trees must be severely pruned. The danger of prompt medical publicity about medical discoveries is a serious one. The lay public can garble the simplest item of news into a catastrophe. They can take a tentative statement and transform it into a great discovery.

The changing attitude of official health agencies toward health education largely by lay groups, and the conclusion they have reached that approaching the public through the practicing physician may be of greater value, is shown by the report of the New York Cancer Commission to the legislature in February of this year. The commission has this to say regarding public education and cancer control:

"Public education in cancer has been carried on in this state by the Division of Cancer Control of the New York State Department of Health, by the American Society for the Control of Cancer, the New York City Cancer Committee, and by various county medical societies. From 1933 to 1937, inclusive, all agencies in upstate New York reached, through public lectures approximately 68,000 persons, whereas the Massachusetts cancer educational program is estimated to reach 100,000 persons in a single year. The method pursued in Massachusetts is that of concentrating effort on having public education done in each locality by local physicians. This achieves the

double effect of reaching many more people than can be done through the individual efforts of a few full-time workers and at the same time stimulates the interest and encourages postgraduate education of the physicians themselves. The commission accordingly has recommended that the Division of Cancer Control endeavor to stimulate and encourage the medical profession to carry on public education in cancer and that the services and experience of the Division of Cancer Control be placed at the disposal of the medical profession to this end."

The cooperative educational campaigns that have been carried on by the New York State Department of Health and our State Society through its committee on public health and education in pneumonia and syphilis demonstrate the value of this educational method, and as early as 1933 attracted wide attention. They have combined the educational and professional possibilities of the two to their mutual advantage. They have facilitated the education of the medical profession to the highest point by making available the known methods of diagnosis and treatment, and serve the official agencies by the promotion of the health of the people in a most effective manner. The principles laid down in 1933 by Dr. Farmer's committee and encouraged by the state at first in a small way, now more extensively should develop into a general health education principle. Naturally there are things that may be done by the one, or by the other, or by both, but most things can be done best through cooperation of those who have wisdom.

The responsibility of doctors in the education of the public against the promiscuous use of drugs is twofold. In proper lay use of such substances as the barbiturates and sulfanilamide, to mention but two, has grown to enormous extent. We are remiss in that we have spread the lay use through the publicity we have given them. Now we must educate the public in the dangers of such illegitimate use and must ask restricted

\* *Ann. of Int. Med.* 12-0 (March) 1939

sale An Associated Press dispatch, widely published on April 12, 1939, states that Dr J S Cunningham, District State Health Officer, at a joint meeting of committees representing the Monroe County Medical Society and the Rochester Pharmaceutical Association, reported that there had been 84 severe cases and 94 mild cases of drug intoxication resulting from self-medication in Monroe, Wayne, and Livingston counties during the past year Dr Cunningham attributed 12 deaths in those three counties last year to self-administration of drugs, and committees of doctors and pharmacists considered asking legislation to restrict drug sales

It was stated that the easy purchase of "dangerous" drugs was a "menace" to the welfare of the public and a special warning was issued advising against the purchase, unless prescribed by a physician, speaking particularly of sulfanilamide and its derivatives

I hope, in rapidly sketching and abstracting to save our time, that I have laid the background for the following conclusions

Public-health education is an important duty of the medical profession and should be reserved to them and the official health agencies The spread of information to the public may be easily corrupted by political propaganda It should be simple, direct, and suggest the need for professional advice It should not discuss matters of treatment even in a broad way, for diagnosis should precede treatment, and self-diagnosis is dangerous under all circumstances The value of such education depends on how clearly it tells when and how to seek advice from those who

by training and experience are legally qualified to give it

Well-planned education of any nature is progressive One should not read the last chapter first just to get the thrill It is to be given only by professional or professionally supervised teachers, not by lay volunteers The general education laws of the state and the control of our public schools recognize this principle

The attitude now being taken by the New York State Department of Health that certain health education is best done by physicians and that in many ways the department should help improve the doctor and then use his improved facilities and abilities for the spread of knowledge to the public is to be commended Surely eventually we will be called upon in the none-too-distant emergency and we must be prepared to lead, and to accept our responsibilities in any new order of things Only by the preservation of truth can civilization survive

The attitude of the national government in taking lay or amateur advice on health matters and general educational matters showing preference for spontaneous ideas, even of ideas of grandeur, in contradistinction to scientific cooperative studies by experts with legal authority, is to be deplored and opposed

Governmental propaganda of destruction and confusion, of half-truths and half political buncombe is a sad picture of an otherwise noble animal attempting to devour its young Public-health propaganda feeding on the medical and social sciences, wearing a cloak of philanthropy to cover selfish political designs is not to be confused with health education

---

#### CONFERENCE ON INDUSTRIAL MEDICINE

The Twenty-fourth annual meeting of the American Association of Industrial Physicians and Surgeons with the American Conference on Occupational Diseases and Industrial Hygiene

will be held at the Hotel Statler, Cleveland, June 5-6-7-8 The meeting will include scientific sessions of both medical and nonmedical value to industrial health.

# Public Health Notes

J ROSSLYN EARP, L R C P, DR P H

New York State Department of Health

## The Cost of Safety

IN THE expensively successful environment of the twelfth annual convention of the Greater New York Safety Council (Hotel Pennsylvania, March 27, 1939) a physician reporter finds himself temporarily bemused. Here are several thousand representatives of big business gathered to conspire for the greater safety of human life and limb. Of course, through the erudite calculations of Dublin and Lotka one knows that theoretically human life has a money value. And then among the representatives of big business one notices that the insurance companies are also represented. Light dawns: ways have been found to convert the theoretical value of human life into something that shows on the ledger.

There is workmen's compensation, and automobile accident insurance and fire insurance and even the accident risks that the banker takes when he unwillingly takes title to a property. These also are insured.

Those who have to pay in cash for accidents find it worth their while to inquire how and why accidents occur. Mr John O Dornbusch, Manager of Insurance for the Central Savings Bank in the City of New York, finds that the majority of accidents result from falls on stairs or in public halls. His investigators must answer the following questions:

- 1 Are the treads or tread coverings particularly worn or otherwise defective?
- 2 Are the stairs well lighted at all times?
- 3 Are the stairs equipped with at least one handrail running the entire length of the stairs?

4 Are the stairs uniform in tread width, and riser height?

The second highest cause of accidents is from falling plaster. Porcelain handles are found to be extremely dangerous. Rubber mats, whether used in lobbies or on stairways, must be inspected frequently as they have a tendency to curl.

Newly built modern homes have their own though different hazards. The additional fire risks of modern air-conditioning equipment were graphically described by Mr R E Maginnis of the American District Telegraph Company. Mechanical filters, through which air is forced to remove dust, lint, and other foreign matter, offer possibilities of severe hazards: the oil film and the dust can generate great heat and smoke even if the material of the filter itself is non-combustible. The forced draught into the building may suck in sparks, the forced draught through the building may distribute fire and smoke leading to panic, which may be more dangerous than the fire itself. Fire may arise within the system from an overheated bearing or from friction sparks from a fan that is not properly serviced, kept clean, or in true alignment.

These accident hazards must occur in many homes that carry no insurance. They will be observed by many a family physician in the course of his rounds. The doctor who consults his own financial interest will leave them severely alone; they may bring him business. But many physicians will nevertheless warn the household of accident hazards in their midst, and no doubt the minatory physician will often incur the householder's displeasure for meddling in matters that do not concern him.

## The Production of Antipneumococcus Serum

The time has by no means arrived when antipneumococcus serum can be forgotten. Perhaps that time never will arrive. At any rate the Division of Laboratories and Research continues to carry out the provisions of the Hawkins-Schwartzwald Act. Horse serums for seventeen types of pneumonia have been prepared for clinical trial. During the last year this achievement has been supplemented by the experimental development of antipneumococcus rabbit serum for practically all known types. The supply of these serums is limited. Demand for them is rapidly increasing.

In order that limited supplies should be most profitably expended, and in view of the urgent need for more accurate knowledge of the effects of serotherapy in

pneumonia caused by the higher types, distribution has been restricted to a number of collaborating medical centers in different parts of the state. As a result of knowledge so gained and the progress made at the laboratories it was decided at the beginning of April to make available for general use rabbit serums of Types II and XIV and horse serum of Type IV, in addition to the serums for Types I and V hitherto available. The supply stations that have been stocked with the three new antipneumococcus serums are located as follows: Albany, Buffalo, Binghamton, Cooperstown, Corning, Glens Falls, Kingston, Mineola, Ogdensburg, Olean, Poughkeepsie, Riverhead, Rochester, Syracuse, Warsaw, White Plains.

---

## MEDICINE FOR THE MEDICINE MAKERS

The suggestion advanced by Dr. Thomas Parran, surgeon general of the United States Public Health Service, that the drug and chemical industry "revive in modern counterpart the 'wardens of the apothecaries' who enforced drug standards in the seventeenth century upon those who 'unfaithfully prepared' their compounds" met with such wide approval in the industry that the executive committee of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will consider immediate action to that end, Ray Schlotterer, secretary, says.

Dr. Parran advanced the proposal at the annual dinner sponsored by the trade group at the Hotel Waldorf Astoria. The idea was dis-

cussed informally among drug wholesalers, producers of proprietary medicines, and chemical men. Whether the action would take the form of establishing a standing committee to set up and enforce standards or whether it would follow the patterns used in some other industries for voluntary self-regulation was not clear. The general notion of an enforcement body within the industry was widely favored, however.

Mr. Schlotterer said there was no question but that self-regulation is the alternative to increasing governmental controls. It offers the only possibility for progress in the industry, he said, for, without self-regulation, the industry faces the likelihood that its "hands will be tied" by a growing body of new laws.

---

## ANOTHER PEST IN THE OFFING

The ravages of the mosquito, *Anopheles gambiae*, which in 1938 killed 10 per cent of the population of certain districts in Brazil and which may eventually reach North America, are described in a report of the Rockefeller Foundation.

According to the report, the *Anopheles gambiae* is the most dangerous member of the mos-

quito family. In 1938 it infected with malaria 90 per cent of the inhabitants in the Jaguaribe Valley of the State of Ceará in Brazil, with a mortality rate of 10 per cent in certain districts, and caused disruption of the normal life of the communities to the extent that virtually every person in the affected areas will be on government relief this year.

# The Woman's Auxiliary

To the Medical Society of the State of New York

## Onondaga County

Dr Brewster Doust was guest speaker at a meeting of the Woman's Auxiliary to the Medical Society of the County of Onondaga held on April 4 in the Syracuse General Hospital. Mrs John Buettner reported on the state convention held on April 24-26. A social hour followed the meeting.

## Queens County

Many members and guests of the Woman's Auxiliary to the Medical Society of the County of Queens enjoyed a luncheon and bridge at the Amber Lantern Restaurant, Flushing, Long Island, on April 12, 1939. There were table prizes, door prizes, and four special prizes. Mrs. Robert Yanover, chairman of entertainment, and her committee were in charge of arrangements.

## Rockland County

Mrs J C Dingman presided at a meeting of the Woman's Auxiliary to the Medical Society of the County of Rockland held in the Rockland State Hospital on March 21. Dr Russell Blaisdell, director of the hospital, welcomed the guests. Mrs Trevalyn Omstead, chairman of legislation, discussed the bills now pending that are of interest to the medical profession. After the executive session the members enjoyed listening to three members of the hospital staff. Dr Joseph Miller, head of the male reception and parole board, spoke on the Rockland State Hospital in general—its buildings and their function. He spoke of the care given patients from the time of their admission. Miss Witte, director of nursing at the hospital, discussed the nursing of the mentally sick, and Dr Kilpatrick, in charge of the children's division, spoke on the importance of the careful guidance of the problem child and told of the interesting work that is

being done with this group. Mrs Alfred Stanley was hostess for the afternoon and Mrs A Selman and Mrs S W Toms presided at the tea table.

## Saratoga County

A meeting of the Woman's Auxiliary to the Medical Society of Saratoga County was held in the home of Dr and Mrs Frank Mastrianni on April 4, 1939. Mrs. Mark Nettles presided. Dr Mastrianni, local health officer, addressed the auxiliary under the auspices of the speakers bureau of the Saratoga County Medical Society. His subject was "Cancer." He reviewed the history of the disease and emphasized that both Egyptians and Indians were acquainted with it. He emphasized the need of a physical check up yearly, or twice yearly, especially for persons over forty. Dr Mastrianni announced that tumor clinics are being established in the Memorial Hospital at Albany and in the Samaritan Hospital at Troy. In closing, Dr Mastrianni said that there is good prognosis in early recognized cancer cases and urged that fears be confirmed or allayed by competent physical examination and x ray. Mrs Mastrianni was hostess after the business meeting and program.

## Schenectady County

A meeting of the Executive Board of the Woman's Auxiliary to the Medical Society of Schenectady County was held on March 22, 1939 at the residence of Mrs William Mallia. The program for the May meeting will be a round table discussion on current medical legislation.

## Suffolk County

The members of the Woman's Auxiliary to the Medical Society of Suffolk County honored their past president, Mrs Stan-



ley Jones, at a luncheon at Gerard's Restaurant, Huntington, on March 28 Mrs George Oxholm had arranged a delightful musical program for the entertainment of those present Among the guests were Mrs John L Bauer, of Kings, first president of the State Auxiliary, and Mrs Daniel Swan, of Queens, president of the State Auxiliary, as well as other

members of the state executive board

. . .

The Seventeenth Annual Convention of the Woman's Auxiliary to the American Medical Association will be held in St. Louis, Missouri, May 15-19, 1939 The New York State Auxiliary will send delegates, but it is hoped that a great many members will attend

#### A RAP AT THE STATE HEALTH PROGRAM

Creation of a bureau of health education in the state's department of education was advocated by Dr C E A Winslow, Professor of Public Health at the Yale School of Medicine, in an address before the Public Education Association at the Hotel Pennsylvania on April 5

If the health procedures of this state are to be improved, many "radical changes" in the existing health organization are required, Dr Winslow declared On the whole, New York State is woefully lacking in adequate health facilities, he charged

An experienced school administrator should be placed in charge of the health education bureau, which should include health and physical education instructors, doctors, nurses, and dentists, Dr Winslow said He urged committees of similar make-up for each area

"The entire school health program should be formulated and conducted under the advice of

a regularly constituted and continuing council on health education," Dr Winslow continued "To insure correlation and secure desirable technical assistance, the state department of health and the state department of mental hygiene should also be invited to designate representatives to sit with the council "

As practiced at present, Dr Winslow continued, the state health program is "extremely narrow" in objective, limited to a rigid routine, and almost wholly lacking in correlation with the educational program as a whole He based his conclusions on the findings of the recent regents' inquiry, in which he took part

"On the whole, it seems to me that health service is perhaps the least effective of all phases of the health program which we have studied in New York State," he asserted "Radical changes are essential if it is to be made reasonably efficient "

#### LUCKILY THERE WAS A "DOCTOR IN THE HOUSE"

It is estimated that three hundred lives will have been saved due to the forethought of Dr Daniel L Bower, member of the House of Representatives in the recent Indiana legislature, who sponsored a bill providing for emergency ap-

propriations for purchasing pneumonia serums for indigent cases

The original bill had set July 1 as the date on which the first appropriation for this purpose should be available

#### OUCH!

"I think—," began the doctor on the witness stand

"You are not on the stand as an expert witness," interrupted the attorney "We want your testimony as to what you know, not as to what you think "

"I'm sorry," the doctor answered quietly "I'm not a lawyer I can't talk without thinking"—*Medical World*

#### MORE MOUTHS FOR SILVER SPOONS

The erstwhile low birth rate among the well-to-do classes is rising, Dr Clyde V Kiser of the technical staff of the Milbank Memorial Fund, said at the seventeenth annual conference of the fund at the New York Academy of Medicine, 2 East 103rd Street He based his report on records of more than 375,000 married American women of child-bearing age, collected by the National Health Survey of 1935-1936 in eighty-four cities of nineteen states

# Medical News

## Serum to Protect Children from Measles

THE New York City Department of Health has issued an important notice on the use of convalescents' serum in the control of measles. It advises that convalescents' measles serum injected intramuscularly into children not later than the fifth day after exposure to measles will either prevent or attenuate the disease in 95 per cent of the children so treated. The attenuated disease that may develop is so modified that complications practically never occur. Nevertheless, this modified measles usually confers a lasting immunity.

In children up to the age of five, measles causes a higher mortality than is generally realized. It is therefore advisable to attempt complete protection in this age group, postponing the possibility of contracting measles to a later age period when the disease is less dangerous. For the same reason this practice should be adopted in children in any age group who are run down or suffering from any other illness.

To prevent measles completely, children up to the age of three should receive 5 cc. of convalescents' measles serum, those from three to ten years, 10 cc., and those older than ten years, 15 to 20 cc., depending on their size.

The dose for modifying measles in children over five years of age is one half of the above amounts when given not later than the fifth day after exposure, or the full amount from the sixth to eighth day of exposure.

In hospitals and children's institutions, regardless of the age of the children, the

attempt should be made to prevent completely the development of the disease so as to prevent an outbreak of measles in the institution.

Since the serum is derived from humans, the risk of allergic or anaphylactic reactions is practically nil, and only rarely does a mild local reaction occur at the site of injection.

Convalescents' serum, as supplied by the Manhattan Convalescent Serum Laboratory, is prepared from blood obtained from individuals recently recovered from measles; it is proved to be sterile and Wassermann negative before it is released, and its distribution has been licensed and is under the supervision of the U. S. Public Health Service.

The Manhattan Convalescent Serum Laboratory is a nonprofit organization. For this reason the serum is supplied at the cost of production to hospitals and physicians. Measles convalescents' serum is furnished at the rate of fifty cents a cc., or \$2.50 for 5 cc.

Serum can be obtained at the Manhattan Convalescent Serum Laboratory, Room 610, in the William Hallock Park Laboratory of the New York City Department of Health, 15th Street and East River, between the hours of 9 A.M. and 5 P.M., and from 9 A.M. to 12 noon on Saturdays. At all other times serum can be obtained from Dr. William L. Wheeler, Jr., 348 West 22d Street, Chelsea 3-4149.

Further information regarding convalescents' serum supplied by the laboratory can be obtained from Dr. William Thalhimer, director.

## County News

### Broome County

Dr. William H. Hobbs addressed the Broome County Medical Society on "What Place Should Transurethral Resection Occupy in the Treatment of

Vesical Neck Interference?" on April 11 at the Monday Afternoon Club House, Binghamton. Discussion was by Dr. C. D. Squires and Dr. D. O. Chamberlain.

## Erie County

On April 5, Dr Elmer Milch discussed "The Management of Diffuse Peritonitis, Subsequent to Perforated Appendicitis," before the Section of Surgery of the Buffalo Academy of Medicine, on April 12, the Buffalo Radiological Society conducted "A Symposium on Roentgen Therapy of Infectious and Benign Conditions," and on April 19, the Section of Obstetrics and Gynecology listened to a paper on "Hemorrhage in Obstetrical Cases," by Dr Henricus J Stander, of New York City

## Cortland County

Syracuse papers a few weeks ago gave prominence to the half-century of medical practice of Dr John E Leonard, of Harford Mills, with a column story of his life and a fine picture of him reading the *New York State Journal of Medicine*. He "has been a familiar figure at the firesides of many homes in a dozen townships of four counties for half a century," we are told. Among his interesting memories—"in a single twenty-four-hour day in his early years of practice Doc remembers driving a horse sixty-three miles and visiting twenty-eight patients when on many of the calls he had to break drifts open for the tired horse."

When the influenza epidemic raged shortly after the United States' entry into the World War "Doc for many days did not even see his bed, let alone sleep in one, and his work in that disastrous epidemic is still remembered among householders and doctors of the parish. He lost just two of all the many patients he treated over a wide area." When relatives and friends urge him to retire, he relies "Maybe I will I'll think it over, anyway."

## Franklin County

Dr George E Wilson, Vice-President of the Saranac Lake Medical Society for the past year, was elected president of the society to succeed Dr Spencer Schwartz at the final meeting at the John Black Memorial room on March 29

More than fifty members of the society, the Osler Club, and guests, attended the meeting and heard a lecture on "Silicosis and Allied Conditions Due to the Inhalation of Dust" by Dr Leroy U Gardner, director of the Saranac Laboratory

At the final meeting of the Osler Club, Dr Edwin M Jameson was elected president to succeed Dr Walter Taylor, D D S, and Dr Arthur Vorwald was named vice-president

The medical society and the Osler Club have sponsored seventeen meetings from last November through March this year. Distinguished physicians from all parts of the east and Canada lectured at the meetings and four clinical pathologic conferences were conducted by local physicians

## Greene County

Dr Lyle B Honeyford, of Catskill, who died on April 2, was a former President of the Greene County Medical Society. He was largely responsible for the establishment of the Greene County Memorial Hospital and became the first president of its medical board, serving until 1937, and through his own gifts and those of his friends aided the institution financially

## Jefferson County

Dr Cary Eggleston, of the Cornell University Medical College, will address the Jefferson County Medical Society at Watertown, May 11, at 8 P M on "Rheumatic and Syphilitic Heart Disease"

## Kings County

The Doctors Orchestra of Brooklyn gave its first public concert March 29 in Brooklyn State Hospital for the Insane.

## Monroe County

Dr Elmer Milch, of Buffalo, read a paper on peritonitis before the Monroe County Medical Society on March 21

## New York County

The New York City Department of Health, with the aid of Works Progress Administration employees, has begun x-

ray examinations of 20,000 fur workers to determine the percentage of tuberculosis infection, believed to be an occupational disease in the fur industry

The tests are given at the rate of about five hundred a day. A new type of x ray machine, capable of four exposures a minute, is being used. The total cost of the x rays will be about \$1 a person.

The tests are being given under the direction of Dr Herbert R Edwards, Director of the Bureau of Tuberculosis of the Department of Health. Dr Edwards said that wherever there is a suspicion of tuberculosis the record of the case will be turned over to the individual's private physician with the recommendations of the health department.

In instances where an individual has no private physician the records will be turned over to the Furriers' Joint Council, which has a medical board. According to Mr Potash, information already available reveals a great many cases of tuberculosis, heart disease, and asthma among the union membership.

Dr Livingston Farrand, President Emeritus of Cornell University, will speak at the New York Academy of Medicine on May 11 at 8:15, on "Primitive Man and Medicine."

Dr William Hallock Park, former Director of the Bureau of Laboratories of the Health Department of New York City and an outstanding specialist in the field of antitoxins, died on April 6 of a heart attack in his home, 1225 Park Avenue. He was seventy-six years old.

Dr Park was cited by Yale University as "the perfect type of the scientist in the service of the state." He accomplished great things as "the family doctor to New York City's millions," but he made no personal financial gain, and the honors that he gained were not sought, but showered upon him.

He was mainly responsible for the conquest of diphtheria by his toxin anti-toxin. Dr Park's extensive research work made possible the supply of pure milk in New York.

Since 1894, when he took over the position of director of the city's Bureau of Laboratories, Dr Park sought to prevent such scourges as pneumonia, scarlet fever, tuberculosis, cancer, typhoid, measles, diphtheria, influenza, and other contagious maladies—and he was largely successful, so much so that he was hailed as "the American Pasteur" when the American Public Health Association conferred upon him the Sedgwick Medal in December, 1932.

That same year Dr Park received the Public Welfare Medal of the National Academy of Sciences "for work as head of the research laboratories of the New York City Health Department and the application of scientific discoveries for the prevention of disease."

Fifty years after he was graduated from the College of the City of New York with the class of '83, Dr Park received the Townsend Harris Medal from his alma mater for attainment in medicine.

In 1923, Dr Park was President of the American Public Health Association.

Despite his untiring work in his laboratories, Dr Park found time to write several scientific books and many articles and monographs. He wrote *Pathogenic Micro-Organisms*, *Public Health and Hygiene*, and *Who's Who Among the Microbes*. He contributed to technical journals on bacteriology and immunology, public health, and hygiene.

Dr Charles Rupert Stockard, Professor and Head of the Department of Anatomy of the Cornell University Medical College, 1300 York Avenue, New York City, and an outstanding biologist, died on April 7 in the Rockefeller Institute Hospital, York Avenue and 66th Street, of heart disease after an illness of six months. He was sixty years old and lived at 1035 Fifth Avenue.

Dr Stockard was noted chiefly for his scientific investigations on morphologic subjects, on the experimental production of monstrosities and the influence of alcohol and anesthetics on the development of animals. He was President of

the Board of the Rockefeller Institute of Medical Research and an investigator for the Huntington Fund for Cancer Research

A contributor to medical journals in this country and abroad, he was managing editor of the *American Journal of Anatomy* and editor of the *Journal of Experimental Zoology* and of the *American Anatomical Memoirs*. He was the author of *Origin of Blood*, published in 1915, *Hormones and Structural Development*, 1927, and *The Physical Basis of Personality*, 1931

### Ontario County

The second quarterly meeting of the Ontario County Medical Society was held at the sanitarium in Clifton Springs on Tuesday, April 11. The program 1 "Diabetic Coma," by Dr Paul Newland, of Clifton Springs, 2 "Common Diseases and Injuries of the Hip, by Dr Adrian S Taylor, of Clifton Springs

The papers were in the nature of clinics. Patients were presented for examination and various points in the talks illustrated by lantern slides

### Orleans County

Two Orleans County physicians, Dr Edward Whittier and Dr William O Burbank, of Albion, are celebrating a half century of medical practice. They were graduated together from the University of Buffalo Medical School on March 26, 1889. Five others of the class are still living

### Oswego County

Dr Oliver W H Mitchell, of Syracuse University, addressed the Oswego County Medical Society Auxiliary on March 29 on socialized medicine

The fact that national health programs have met with favorable results in other countries is no indication that a similar system could be successfully operated in the United States, Dr Mitchell contended. Taking into consideration such factors as population and the difference in standards of living, the success of

socialized medicine in this country is improbable, he indicated

### Queens County

Queens physicians are complaining that the police have marked them out as special targets in handing out summonses for minor infractions of motor regulations. According to the *Brooklyn Eagle*, the Queens County Medical Society has taken official cognizance of the situation by addressing a resolution of protest to Police Commissioner Valentine, who has promised to look into the alleged persecution. A committee has also been appointed to confer with Inspector John M O'Leary, in charge of traffic in Queens

A legend has arisen that the prodigality of police with tickets for doctors resulted from a recent incident at Queens General Hospital

According to the story, a traffic policeman who had suffered a fractured leg was taken to the hospital for treatment. A member of the hospital staff spotted him in the ward as a policeman who had once served him with a summons

"Gee," joshed the doctor, "I wish I had charge of your case. Would I get even!"

The policeman is supposed to have resented the remark and spread the story among his colleagues

However, Dr Joseph Wrana, president of the medical society, does not lean too heavily on this story as the possible spark for the police war on physicians

"I believe that we can look for the reason in the stricter investigation which is being made today into the status of applicants for treatment in municipal hospitals, particularly in Queens," he said

"Heretofore, it had been customary for policemen and firemen to receive free treatment and occupy beds at municipal hospitals, which are primarily intended for the care of the sick poor. The stricter regulations now in force may be responsible for retaliatory measures by the police

"They overlook the fact that we doctors have nothing to do with the regula

tions. They are entirely up to the executives of the hospital. We do not even receive any compensation for the work we do at municipal institutions.

"The danger in the present situation lies in the fact that a delay to a physician caused by an overzealous or malicious police officer may mean the difference between life and death to a patient."

Dr. A. W. Martin Marino addressed the Medical Society of the County of Queens on April 7 on "Office Proctology."

Dr. Albert L. Voltz, who died on March 27, was President of the Queens County Medical Society in 1930-31.

#### Rensselaer County

Dr. Merlin J. Zeh, of Watervliet, is celebrating the fiftieth anniversary of his start in medical practice.

#### St. Lawrence County

Dr. Cary Eggleston, of the Cornell University Medical College, will address the St. Lawrence County Medical Society in Ogdensburg on May 11 at 1:30 P.M. on "Rheumatic and Syphilitic Heart Disease."

#### Saratoga County

Recently in Saratoga County the question arose as to the legality of the board of supervisors appointing physicians to treat syphilis patients in their own offices and to pay for their services on a fee basis from a county appropriation. The attorney general has expressed the opinion that the board of supervisors has ample authority under Section 12, subdivision 44-a of the county law, to provide for syphilis treatment on a fee basis.

#### Warren County

The Glens Falls Academy of Medicine met on March 31 in the Crandall Library auditorium. Dr. Robert E. Buckley, of New York City, spoke on "The Importance of Sinusitis to the General Practitioner."

A Spring drive of syphilis education will be launched May 3 by the Warren County Tuberculosis Committee at a dinner in Glens Falls to be addressed by State Health Commissioner Godfrey. Mr. Osborn will represent the state committee on the program. Miss Marjorie Bucknam, executive secretary, scheduled a preliminary organization meeting April 10, inviting the principal organizations of the county to send delegates to hear three prominent local speakers describe the objectives of the campaign and to review educational material.

Here are two cogent paragraphs from Miss Bucknam's prospectus of "Why Syphilis Education Is Needed in Warren County":

1. Until a majority of our citizens will readily accept a talk about syphilis control with the same detachment that they would about tuberculosis, we need meetings on syphilis.
2. Only a small percentage of the people of Warren County realize that the facilities for the diagnosis and treatment of syphilis, as maintained by our official health agencies, are unexcelled by any other county in the state. If more people are informed of these facts they will take advantage of them and rally to their support at all times.

#### Westchester County

The right of persons on relief in Westchester to select their own physicians, the elimination of "politics" in medical welfare work, and participation in such work by some 500 county physicians who do not now accept cases are all proposed in a new plan now under consideration.

Growing and widespread dissatisfaction among physicians, welfare officials, and taxpayers, with the present loosely organized methods of administering medical care to relief recipients has resulted in the formulation of the plan, which, if adopted on a county wide basis, may point the way toward a reorganization of

the medical-relief structure of the entire state

The plan, drawn by a committee composed of members of the county medical society and welfare officials, centers about the appointment of a county "arbitration committee" composed of five physicians chosen by the president of the medical society and five welfare officials selected by the conference of county welfare officials to administer the medical care of persons on relief

In the opinion of the members of the society and of officials in public-welfare work, the plan would provide the mechanism to generally improve the present medical-relief situation, obtain a more general participation of the medical profession in serving welfare patients, and would assure the highest type of medical service at the lowest cost to the taxpayer

Comprising the committee of eight which drew up the plan are Dr Edward C Wood of White Plains, chairman, Dr Mark G Khatshco of Mount Vernon, Dr Herbert W Schmitz of Yonkers, and Dr Charles Neil Jeffries of Mamaroneck, for the county medical society, and Nicholas J Ebbitt, Yonkers, Commissioner of Public Welfare, Charles D Devinne, Public Welfare Officer of the Town of Mamaroneck, Mrs J Hobart Cox, Public Welfare Officer of the Town of North Castle, and Miss Edith Parker, Assistant Director of the County Department of Family and Child Welfare

The medical society estimates that at the present time not more than 200 of the 700-odd practicing physicians in the county are treating relief patients

Although in some parts of Westchester physicians and public-welfare agencies are cooperating on a successful medical care program, many medical men in other areas will not touch relief work because a satisfactory working agreement with the

public agency cannot be achieved The medical society has received complaints that in still other districts, physicians refuse to participate on the grounds that the medical-relief setup is a political football and that doctors are being literally "kicked around"

By arming an arbitration committee with authority to take affirmative action where it is needed, it is believed that many difficulties between the physicians and the administering welfare officer can be settled

A Michigan medical editor, who has been studying county medical publications for a year or more, has handed down the verdict that "for interest from the reader standpoint" the Westchester Medical Bulletin leads them all, and Editor Bryan has written him a graceful note of thanks The Bulletin of the New York Academy of Medicine is listed by the Michigan editor as "purely scientific and one of the best we have seen"

A regular meeting of the White Plains Medical Society was held Tuesday evening, April 11, at the Gedney Country Club, Ridgeway, White Plains Several important business matters were discussed, after which Mr John J White presented a preview of the New York World's Fair

At a regular meeting of the Yonkers Academy of Medicine, held Wednesday evening, March 15, at the Amackassin Club, Dr Clyde H Brown, attending physician of French Hospital, New York City, presented an interesting paper on "Arthritis"

The Mount Vernon Medical Society held a regular meeting, Thursday evening, April 13, at The Knolls in Mount Vernon The speaker was Harrison F Martland, noted toxicologist

---

The Fourteenth Scientific Session of the American Heart Association will be held at the Hotel Jefferson, St Louis, Missouri The

general cardiac program will be given on Friday, May 12, and the program of the Section for the Study of the Peripheral Circulation on May 13

## Deaths of New York State Physicians

| Name                   | Age | Medical School | Date of Death | Residence                            |
|------------------------|-----|----------------|---------------|--------------------------------------|
| Thomas McC. Anderson   | 57  | Baltimore      | March 24      | Manhattan                            |
| Charles H. Cole        | 69  | Albany         | March 24      | Binghamton                           |
| Albert B. Eckerson     | 69  | N Y U          | March 29      | Mount Vernon                         |
| James C. Edgar         | 79  | N Y U          | April 7       | New York City and<br>Greenwich, Conn |
| Lyle B. Honeyford      | 62  | Albany         | April 2       | Catskill                             |
| James H. Kenyon        | 66  | P and S        | April 10      | Manhattan                            |
| Charles M. Marnes      | 75  | Northwestern   | March 27      | Rouses Point                         |
| George K. Meynen       | 78  | N Y U          | April 7       | Jamaica                              |
| William H. Park        | 76  | P and S        | April 6       | Manhattan                            |
| David H. Roberts       | 79  | Bellevue       | March 31      | Utica                                |
| Hirsch Sadowsky        | 55  | Fordham        | April 2       | Bronx                                |
| William C. Schoenijahn | 65  | P and S        | March 28      | Brooklyn                             |
| William J. Sheehan     | 67  | Albany         | April 7       | Port Chester                         |
| Vincent G. Smith       | 44  | Jefferson      | April 2       | Port Richmond                        |
| Charles R. Stockard    | 60  | Würzburg       | April 7       | Manhattan                            |
| Francis Tweddell       | 75  | P and S        | April 1       | Plandome                             |
| Albert L. Voltz        | 55  | L I C          | March 27      | Forest Hills                         |
| Frank A. Walder        | 50  | Buffalo        | March 27      | Lockport                             |

## Correspondence

*To the Editor*

Recently one of the European refugee doctors, who bears a name similar to mine and whose controversial affair with the Board of Regents reached even the daily press, happens to be confused with my person. This has become known to me by many sources, doctors as well as patients. You would oblige me greatly if you would publish a correction in your esteemed paper.

Sincerely yours,

Gustav Erlanger, M D

New York City

April 6, 1939

Doctor Gustav Erlanger, who is a practicing physician in the Borough of Manhattan, should not be confused with a foreign physician of a similar surname, who recently appealed to the Courts from a ruling of the Board of Regents of the State of New York refusing to endorse his foreign license to practice medicine.—*Editor*



# Hospital News

## A Plan to Care for Chronic Patients at Home

**T**HIS is "something people ought to get excited about," says Ralph G. Hurlin, of the Russell Sage Foundation, in speaking of the "housekeeping service for chronic patients" in New York City.

For a long time many physicians have been of the opinion that a large proportion of the chronic patients in hospitals and nursing homes could be as well or better cared for in their own homes, at an economic saving to the community and with positive benefit to themselves, if adequate home service were provided. The WPA Housekeeping Service project here described is believed to be the first in the country that affords data as to the practical service that visiting housekeepers may render in homes that could not otherwise give adequate care to a member of the family suffering from a chronic ailment. The present report summarizes what has been learned from the experience so far gained.

The social service rendered by these housekeeping aids in keeping families together and in creating peaceful home conditions for the children is a collateral value of perhaps equal importance with the service rendered to the patient.

The report has just been issued by Mary C. Jarrett, Secretary of the Standing Committee on Chronic Illness of the Welfare Council of New York City and Technical Adviser to WPA Project for Home Care of Chronic Patients in New York. The report is based on nearly three years of operation of this project, and a further six months of operation in amalgamation with a similar WPA housekeeping project for home care of recipients of old age assistance.

The project for chronic patients is sponsored by the New York City Department of Hospitals and is under the joint technical direction of the Committee on Chronic Illness of the Welfare Council of New York City and the Henry Street

Visiting Nurse Service, with the assistance of an advisory committee under the chairmanship of Dr. Ernst P. Boas, representing medicine, hospitals, and various phases of nursing and social work.

### It Relieves Overcrowded Hospitals

It appears definitely true that a large proportion of beds in most hospitals is occupied by chronic patients who can be as well or even better cared for in custodial institutions or in their own homes, and that the average stay of these patients in the hospital is several times longer than for acute patients. It has been estimated that 1 chronic patient in a hospital displaces 4 or more acute patients.

The care of chronic patients by housekeeping aids in their own homes, where this is indicated, is believed to be cheaper than care in hospitals or custodial homes, and usually the patient is happier in a home environment. The report offers data on this question which is not, however, definitive.

The great value of such housekeeping service to other members of the family in a large proportion of instances has been abundantly demonstrated. Numerous instances are on record of homes saved from disruption, of nervous breakdowns averted, of children enjoying a peaceful and orderly home life because of the service of housekeeping aids. It is broadly true, the report shows, that where such service is of value to the patient it is also of value to every member of the family. Thus, as the report points out, the total value of the service is not medical or economic only, but also social.

No definite conclusions can yet be drawn as to the value of housekeeping service in specific types of chronic illness, nor as to its value in certain types of psychiatric disorder. Neither have adequate data yet been assembled to make the case for housekeeping service as a per-

manent measure for public welfare. Further evidence on all these questions will be gathered as the project continues

### How The Plan Works

The housekeeping aids are drawn from WPA relief rolls, and are for the most part middle-aged women. Before being engaged they are given health tests, including Wassermanns. No woman with syphilis or communicable diseases are engaged for this work.

The housekeeping aids are given a brief course of instruction in home economics and in the general nature of their duties before beginning work. They are periodically visited by their supervisors, who make about two visits a week to each home receiving service. An in training course is now being organized, this will consist of two weeks of instruction and demonstration, followed by a month in the field, and another period of demonstration and instruction of half time for four weeks.

The present staff of approximately 2,000 housekeeping aids is under the direct supervision of 120 examiners, who in turn work under 20 senior examiners supervised by 4 medical social workers. Two chief medical social workers direct the supervisory staff, and they are responsible directly to the technical adviser.

The housekeeping aid in this project is definitely not a practical nurse. Neither (and thus the family is made to understand) is she a maid. She is not expected to do work that could be done by other members of the family. The examiner is definitely not a social worker, though she may have to observe and report conditions requiring the attention of a social worker. The report shows that the personality of the examiners—their tact, understanding, and judgment—is usually excellent.

The project as a rule serves only families of \$100 or less income per month. All cases are recommended by a recognized public or private welfare agency with the approval of a hospital, clinic, or private physician, and are under general medical supervision by the nine project physicians. These physicians do not give medical treatment or advice, their function is to evaluate the results of the service.

The report indicates that the project has already demonstrated the economy and social usefulness of housekeeping service for appropriate cases. More definitive answers to the questions raised are expected to emerge from further study of the enlarged project. Any further information can be obtained from The Welfare Council of New York City, 44 East 23rd Street, New York City.

### The Camouflage of the Face Mask

"For a long time," writes Mr. T. R. Ponton, editor of *Hospital Management*, "I have been very doubtful of the value of the face mask as a preventive of infection from droplet expulsion. When I see a surgeon with his mouth covered with a few layers of gauze, thinking that he is thereby protecting the wound, I wonder that there is not more wound infection. When I see a nursery nurse wearing a mask for hours I am concerned not only for the safety of the patient but also for the lack of efficiency which results from discomfort.

"For a long time I have intended to make some tests to find out whether or not the mask as ordinarily used was a menace or a protection but have neglected it. Last month I was making a survey in an eastern hospital and noted the usual technic in the nursery. I asked the superintendent to have the nurses talk into some Petri dishes and have the laboratory report the results. Instead of talking the nurses coughed. One nurse gave a pure culture of pneumococcus, the other gave pneumococcus with other bacteria. If the two tests had been negative

they would have proved nothing, but even one positive test proves that the mask is not the absolute safeguard that we have come to believe it to be

"I would not decry the use of the face mask to protect both the patient and the wearer. On the contrary I believe it has a decided value if properly used. I would, however, warn against the false sense of security which is so often seen when the mask is worn. It is only bacteriologic common sense to realize that when a mask has been worn for hours it has become so moistened with the breath as to allow easy

penetration of bacteria. The impervious mask has the value that it at least deflects the bacteria which are projected from the mouth of the wearer and it prevents the wearer from direct contamination. The gauze mask may be of value if it is worn for a short time as an emergency measure to protect both wearer and patient from an unavoidable exposure to the direct line of expulsion. One of the manufacturers has recently put on the market a mask which is claimed to be comfortable and impervious to bacteria. I have had no experience with it."

## Operations Seen by Television

The evolution of television as an aid to the teaching of surgery is seen following an experiment at Israel Zion Hospital in which 75 doctors, nurses and students, seated in a room 500 feet away, witnessed the performance of an operation.

The experiment conducted with the co-operation of a patient suffering from a hernia was the first of its kind in medical history and met with the unqualified approval of the operating surgeon, technical engineers, and the onlookers.

"It proved," said Boris Fingerhood, superintendent of the hospital, "that students need no longer crowd into operating room galleries. They will not have to resort to blackboard notes and textbook illustrations because they now can see every move in clearest detail."

## See and Hear Proceedings

The movements of the surgeon's hands and his explanatory comments were picked up by a television camera and microphone and transmitted through cables to the receiving room, where the

witnesses, in groups of 20 to 30, saw the operating room scene on small screens.

The images, in black and white, were visible also to the operating surgeon on an additional screen on the television monitor, the instrument that changes the pictures into electrical impulses for transmission.

A robed and masked engineer of the American Television Company, which installed the equipment, was on duty in the operating room and on several occasions was called on by the surgeon to adjust the mechanisms in order to avert slight blurs.

Despite the occasional imperfect visions, the experiment met with praise from the surgeon, who requested that his name be withheld but expressed certainty that "a new leaf in the book of medical science" had been opened.

The hospital plans to install receiving sets throughout the institution so that staff doctors can "look in" on operations and consult with the operating surgeons.

## Improvements

**W**ITH building and expansion projects costing nearly \$15,000,000 already under construction, and at least sixteen others costing nearly \$9,000,000 scheduled to be started during 1939, the New York

City Department of Hospitals has borrowed twenty draftsmen from the Department of Public Works to hasten preliminary work in the busiest year in history, Commissioner S. S. Goldwater states.

The program, aided in part by Public Works Administration funds, will add to the city's hospital service a psychopathic hospital, two tubercular hospitals, five outpatient buildings, three laboratories, a convalescent day camp, a nurses' home, an isolation building, three expanded outpatient departments, a new administration and staff building, and scores of renovated and improved outpatient departments.

Even these additions will not begin to meet the full demands on the city's medical services, Dr Goldwater said. At the top of his list of badly needed projects for which no money is now available, he placed new general hospitals in Brooklyn, Queens, and Harlem, new tubercular hospitals for Brooklyn and the Bronx, and a new hospital devoted entirely to treatment of venereal patients. This last facility was needed, he said, because of the increased volume of venereal patients resulting from the Department of Health's campaign to educate the public on the subject of venereal disease.

The largest project which will be started this year is a \$1,690,000 psychopathic department at the Kings County Hospital. Second largest is a new outpatient building, also at Kings County Hospital, which will cost \$1,087,000. A new tuberculosis ward and administration building at Riverside Hospital will cost \$970,000, and new wards and extension of the outpatient service at Harlem Hospital \$937,000.

In a few days the department will be ready to occupy the new \$3,500,000 tuberculosis hospital for children at Seaview, S I.

New equipment for three state institutions in Buffalo is provided for in the \$1,843,712 item included in the 1939-1940 budget presented to the Legislature by Governor Lehman.

The largest single item for new equipment is \$153,500 for the Institute for the Study of Malignant Diseases in High Street,

in addition to its regular appropriation of \$388,830 for salaries, including increments, maintenance, and operation.

The item for equipment includes \$150,000 for purchase and installation of equipment for the new 78-bed addition to the hospital and \$3,500 for an incinerator for the group.

The hospital addition, when equipped, will have the most modern facilities for treatment of malignant diseases.

The Buffalo State Hospital is down in the budget for appropriations of \$967,892 for salaries and maintenance and an additional \$2,500 to install a sprinkler system in the hospital's carpenter shop and power plant. Provision is made for scores of salary increases under the Feld Hamilton annual increment act.

A new maternity department is being added at St. Francis Hospital, in the Bronx.

Plans for construction of a new wing to the South Shore Communities Hospital at Oceanside, L I have been accepted by the board of directors, it has been announced by George D. A. Combes, chairman of the board.

The hospital was opened on Armistice Day ten years ago, and has never had an empty bed, but it has not been possible to erect a new wing until now.

Work on the wing will start before fall Mr Combes declared.

Improvements to cost over \$600,000 will be made at Veterans Hospital 81, Kingsbridge Road and Sedgwick Avenue, the Bronx.

Completely modern x ray equipment has been installed in the eight room addition recently constructed at the rear of the Mercy Hospital at Watertown. The major piece of new apparatus is a \$4,000 x ray outfit having a capacity of 100

milliamperes, entirely shock-proof, and an electrically operated tilting table

. . .

George Bennett, entering upon his 21st year as President of Rockaway Beach Hospital, announced at the 28th annual meeting of the hospital, that he would appoint a special committee of directors to investigate possible methods of enlarging the institution. His announcement was made following the reading of annual reports which indicated great increase in the demands made on the hospital during the past year, when the 100-bed institution accommodated as many as 135 patients at one time

. . .

Unless the city appropriates nearly \$2,000,000 additional each year to finance the care of charity patients in privately operated hospitals, service for the poor of Queens, as in other parts of the city, faces "radical curtailment," hospital trustees declare in a report under consideration by Mayor LaGuardia

The North Shore hospitals falling in the category of "voluntary" institutions are Flushing and St. John's hospitals. With Mary Immaculate and Jamaica hospitals, Jamaica, and the two Rockaway institutions, St. Joseph's and Rockaway Beach hospitals, they meet the requirements of the borough's charity cases not cared for at Queens General Hospital or other city institutions outside Queens.

The report on behalf of the needs of the "voluntary" hospital trustees was formulated by a committee which requested that the city budget increase its allowance for such institutions by \$1,967,145.

According to the committee, the hospitals have depleted their capital funds by \$20,000,000 in the last ten years in taking care of public charges. Unless they receive financial aid greater than that given by the city in the past years, they "are in imminent danger of being forced to curtail radically their services to the city and community," the committee declared.

. . .

The Bronx is seriously lacking in hospital facilities, William Seltzer, superintendent of Bronx Hospital, told the members of the Lions Club recently at the weekly luncheon meeting in the Schnorer Club, 163rd Street and Eagle Avenue.

"If our Fire Department or Police Department was undermanned to the same extent that we are short of hospital facilities, the deficiency would be keenly obvious," he said. "The only borough which is worse off than the Bronx is Queens."

Seltzer, representing the United Hospital Campaign Committee, expressed his thanks for a new oxygen tent which the club recently presented to the hospital. He said it will be particularly useful in the treatment of patients with heart ailments, who are being benefited more and more through oxygen treatments.

. . .

Foundation work for the \$3,500,000 Tri-Boro Hospital for tuberculosis patients, adjoining Queens General Hospital in Flushing Hillcrest, has struck a snag due to underground springs, and only 30 per cent of the foundation work has been completed, it is learned.

Just when the foundations for the twelve-story hospital, the nucleus for a huge Queens Medical Center, would be completed, could not be learned since progress has not been as rapid as expected on account of the unforeseen hidden springs and inclement weather.

. . .

Bids for the construction of the Mercy Hospital of Hempstead will be sought after final approval of the building plans has been given by the board of consultants of the Brooklyn diocese, according to an announcement by the board of directors.

The new building will be four stories high and will be set back four hundred feet from Mill Road.

The building has been designed with many setbacks so that the patients will get plenty of light and air, and be able to go outdoors on convenient roof decks.

when the weather permits Sun parlors and enclosed porches will also be provided.

A new and larger chapel has been constructed at St. Mary's Hospital at Amsterdam.

A two-story clinic, 84 by 48, is to be constructed at 501-509 West 131st Street, northwest corner of Amsterdam Avenue, New York City, by Knickerbocker Hospital from plans by Francis Seaman, architect. The cost is placed at \$40,000 the former home of the hospital stood on this site. The new quarters are on Convent Avenue, between 130th and 131st streets

The Catholic War Veterans, New York State Department, are agitating for a new veterans' hospital on Long Island. They also are asking that 500 beds be added to Base Hospital 81, Kingsbridge Road and Sedgwick Avenue. At present Base Hospital 81 has a capacity of 973 beds and a waiting list of 400

Various bodies in South Queens have started a drive for a municipal general

hospital to serve Woodhaven and environs

Extensive alterations at the Leonard Hospital in Troy will give more room for some of the services

The improvements will include a large rest room for the special nurses with showers, lavatory, and other conveniences. There will also be a new autopsy room and morgue

The laboratory will have a new museum for its pathologic specimens and there will be two storerooms

The Samaritan Hospital in Troy has opened a new tumor clinic.

The Onondaga County Hospital will fireproof the older part of its structure at a cost of \$10,000

The Junior Auxiliary of the Peekskill Hospital will convert the board room into a comfortable waiting room

The Trudeau Sanatorium at Saranac Lake has opened a new two-story recreation pavilion

## At the Helm

THESE hospital officials have been chosen

Dr James A. Dickson, to be president of the medical staff of Amsterdam City Hospital.

Dr James M. Bernhard, to be president of the medical staff of St. Mary's Hospital at Amsterdam.

John D. Clarke, of Delhi, to be president of the board of managers of the Delaware County Sanatorium

G. Louis Cook, to be president of the Memorial Hospital Association of Ithaca, re-elected

Dr George R. Dempsey, to be president of the Cornwall Hospital board

Dr James M. Dobbins, to be president of the medical board of St. John's Hospital, Long Island City

Dr John L. Hemstead to be chairman of the medical staff of the Albany Hospital

Clarence A. Ludlum, to be president of the trustees of the Jamaica Hospital re-elected.

Dr William J. Ryan, to be chairman of the Tuberculosis Sanatorium Conference of Metropolitan New York

Alvin S. Rosenson, to be president of the Jewish Hospital of Brooklyn, re-elected

Mrs. Oscar Swift, to be president of the Brooklyn Thoracic Hospital, re-elected for the ninth term

Dr John A Enzien, to be president of the Leonard Hospital medical staff at Troy

Dr John A Faiella, to be president of the Yonkers Professional Hospital, re-elected

Dr Oscar E Gomoll, to be chief of staff of the Mercy Hospital at Auburn

Dr A F Leone, to be chief of the

medical staff of the Orleans County Hospital

Dr J H Mitchell, Jr, to be president of the Cohoes Hospital, medical and surgical staff

Dr John J Quinlan, to be president of the staff of Troy Hospital, re-elected.

William A Seely, to be president of the Chenango Memorial Hospital

## SULFANILAMIDE AND THE DOCTOR

The doctor now sits in his big office chair,  
With his feet on the top of the table,  
His brow is all furrowed with deep lines of care,  
(Just picture him there, if you're able)—  
His office is filled, but with big empty chairs,  
And his office force all now are idle,  
While the sound of a snore from the office next door,

Makes a pain in his head and his middle  
Just a few years ago, he was quite on the go  
And his phone was eternally ringing,  
His patients, when sick, always wanted him quick,

And to others his praises were singing,  
But today there's a lull in his work, and the dull  
Weary hours are becoming depressing  
With no work now to do, he is terribly blue,  
And his predicament is distressing,  
No more mastoids to do when his office is through,

No tonsils to pluck from their housing,  
No sinus to drain for relief of the pain,  
No ears coming in for a dousing  
No boils now to lance, while the victim will dance,

No appendices to remove,  
No more reason to hope that the old cystoscope  
Will a friend muchly needed now prove  
No gallbladders to drain, no disease of the brain  
From absorption of toxins malicious,  
No more chills in the night, many parents to 'fright,

And no more infection so vicious  
We revolve in our mind the reason to find  
For the loss of all means for a living,  
And the reason we see can nothing else be  
But sulfanilamide we are giving—  
So with nothing to do, and the prospect so blue  
We can only sit down and discuss  
Not what have we done with this product,  
But—what has it done with us?

G M MAXWELL—in J A M A

## TRUST THE DOCTOR

In spite of the fact that its material rewards are not great, medicine today attracts and holds superior young men and women, it would not do so if they felt that their future depended on governmental favor rather than upon professional attainments. Experience teaches that there is far more reason to place confidence in the high purposes and altruism of the physicians than in the tall talk of politicians or the wishful thinking of professional reformers.—Editorial, *Chicago Daily Tribune*

## DISTRICT OF COLUMBIA'S MEDICAL PLAN

The members of the Medical Society of the District of Columbia have voted heavily in favor of a prepayment medical service plan. Out of 529 voting, 483 ballots were affirmative, 44 negative, and 2 indefinite. The plan is to include members of the Society who volunteer to participate, and the clients will be employed persons under sixty years of age, in present good health, earning \$2,000 a year or less if single, or \$2,500 or less if married, who will pay \$1 50 a month if single, \$2 50 for husband and wife, and \$3 50 for a family. In adopting a fee schedule for medical services, the income level of the group to be served, and the monthly payments of subscribers have been taken into account. Physicians participating will be required to subscribe to the fee schedule, a copy of which will be provided them when the agreement is entered into. The plan was worked out with the aid and advice of Dr R G Leland, Director of the Bureau of Economics of the A.M.A.

# Medicolegal

LORENZ J. BROSNAN Esq

*Counsel Medical Society of the State of New York*

## Malpractice—Expert Testimony Required

**F**REQUENTLY a patient dissatisfied with results of medical treatment seeks to hold a physician liable for claimed malpractice although unable to produce in court any medical testimony of any actual neglect or departure from proper and approved procedures. Such attempts rarely succeed without competent testimony as part of the plaintiff's proof, as is illustrated by a case recently passed upon by an appellate court in one of the New England states \*

The plaintiff in the case was a boy of about eleven years of age at the time he sustained an injury while coasting. The runner of another boy's sled had struck him, pierced his clothing, and made a wound in his chest. The boy was promptly taken to a hospital where he was examined by Dr. A., a visiting surgeon of the staff who was on service for that particular month and also by another physician, Dr. B., who was designated as house officer."

Dr. A. directed the taking of x rays and they were found to be negative. The wound was thoroughly cleansed and was closed by the use of two interrupted horsehair sutures. Tetanus antitoxin was administered. The boy remained in bed at the hospital for nine days and on the eleventh day went home. During that period he was treated daily by the "house officer" and seen daily on rounds by Dr. A.

Following discharge from the hospital the patient returned to the outpatient department, and was seen further by Dr. B. from time to time for two months. During this time pus appeared in the wound, and on two occasions Dr. B. picked some threads from it. A month later on the boy was taken to a different hospital and confined there for a few days.

According to the records he was found suffering from a chronic sinus of the chest wall, and after x-rays were taken and found to be negative, he was taken to the operating room where the sinus was excised and a small piece of wool fabric was removed. He was sent home in the care of a physician, and in two weeks thereafter the wound had healed.

An action to recover damages for alleged malpractice was brought on behalf of the boy against Dr. A., the surgeon. Upon the trial, the facts were in general shown to be as above related. The proof showed that the defendant did not have any connection with the care of plaintiff when he returned to the outpatient department, and never saw plaintiff after his discharge eleven days after the accident.

The proof showed that Dr. A. when he first saw the child found a lacerated wound over the left breast, exposing the chest wall. The chest wall being thin, Dr. A. told the "house officer" to be careful in any scraping of the wound, lest the pleura might become injured, causing the lung to collapse. The purpose of treatment was described as being to get out all foreign material possible, to give anything left in room to get out, and to drain and help evacuate the wound of any pus or foreign material. The defendant testified that when the patient left the hospital, serum was discharging but there was no pus, and that a wound of the nature plaintiff had received might very well take three or four months to heal. He also testified that it was a natural course for a sinus to develop about foreign material, and that good surgical treatment had been administered throughout.

The trial Court directed a verdict in favor of the defendant, and the case was

\* Talbot v. Spellman 19 N.E. (2nd) 33



taken to the Appellate Court upon plaintiff's contention that the case should have been submitted to a jury.

The Appellate Court affirmed the judgment in favor of the defendant physician, and said in the course of the opinion:

"The precise relationship between the defendant and the 'house officer' does not appear. An inference, however, is warranted that included in the duties of the house officer was the administering by him to patients of such treatment as the defendant should direct. The extent of the liability of the defendant would be for negligence in his acts or omissions in the examination of the plaintiff, in the diagnosis of his injury, in the directions for treatment which he gave the house officer, and in the supervision of the treatment given by the house officer up to January 14 when the plaintiff left the hospital. There is nothing in the record to indicate that the defendant had anything to do with the outpatient department or had any supervision over treatment there given to patients.

"One contention made by the plaintiff is that the defendant was negligent in not discovering and removing from the wound, at the time of the examination of the plaintiff, a bit of wool fabric, which, several months later, was removed at the second hospital to which the plaintiff went. If the testimony of the defendant were accepted, there was adequate reason for not determining at

that time whether any foreign matter was in the wound, the course followed by defendant of awaiting the partial healing of the wound and the formation of a sinus was prudent and proper, and the defendant in all that he did or did not do followed good surgical practice and was not negligent. If his testimony were rejected, as it might be, there was no expert testimony on which to base a finding that the conduct of the defendant was improper or in violation of the obligation as to using care which he owed to the plaintiff. The standard of care set by the law in the ordinary negligence case is the care that would be used by an ordinarily prudent person in similar circumstances. The standard of care by which the negligence of the defendant in an action for malpractice is determined, is somewhat differently expressed. In such cases the measure is the skill and care that persons in the same profession as the defendant ordinarily have and use in similar circumstances. We do not think that the common knowledge and experience of men are such that a jury in this case could, unassisted by expert testimony, say that proper medical practice required going into the wound at the time of defendant's examination, or while the plaintiff was under the defendant's supervision, to probe for any foreign material that might be there, or could say that the defendant was negligent in following the course he did rather than the course now suggested by the plaintiff's counsel."

### Claim of Malpractice in an Obstetric Case

A young married woman, the mother of one child, made arrangements with a physician specializing in gynecology and obstetrics to attend her during her pregnancy and to deliver her when the time came. In due course, the patient was admitted to a hospital where she was delivered of a normal healthy child.

Labor was short and it was not necessary to use instruments. Following the delivery, the physician expressed the placenta and after examining it found it apparently to be intact. The patient remained at the hospital for ten days under his care and she seemed to be in all respects normal. When she left the

hospital, the patient was told to remain in bed for a week and thereafter to restrict her activity and communicate with him in the event of complications, returning for a checkup in a month.

About ten days after she left the hospital, she made complaints to the doctor that after a long walk she had developed some bleeding. He examined her and found that she had passed some blood clots. He advised her to rest in bed and prescribed for her. A few days later she seemed to be in all respects normal. Three days thereafter, at a time when the doctor in charge of the case was not available, it appears that she again

started to bleed and called in another physician who performed a curettage upon her and removed portions of retained placenta.

A malpractice action was brought against the first physician claiming that he had failed to properly care for her in the course of the delivery and the after care. The case came on for trial before a court and jury, and at the conclusion of the testimony introduced on behalf of the plaintiff, upon defendant's motion, the action was dismissed on the grounds that plaintiff had failed to establish that defendant was in any way guilty of malpractice.

### Anesthesia Death

A boy about seventeen years of age had had a tooth extracted following which his jaw became swollen and he developed cellulitis with a lingual abscess, and an oral surgeon was consulted and advised an operation for the purpose of treating the condition. The oral surgeon, after a consultation with another specialist in his field, decided that the anesthesia to be administered should be evipal, and a physician who had for many years specialized in anesthesia was called in to administer the same. The said physician, preliminary to the operation, examined the patient and found his heart, pulse, respiration, blood pressure, and lungs normal from an anesthesia standpoint. There was no respiratory involvement whatsoever and the air passages were clear. The anesthetist computed the dosage of evipal to be administered as 8.64 cc. The patient was placed in a dorsal position and the solution of evipal was carefully injected into a vein in the bend of the elbow. When the patient appeared

to be completely anesthetized, the oral surgeon proceeded with the operation, which took from five to ten minutes. However, upon the completion of that procedure, the patient's breathing stopped and although emergency measures were introduced the patient was declared dead within a half hour.

A malpractice action was instituted both against the oral surgeon and the anesthetist in which the plaintiff's contention was that evipal should never have been used that it was contraindicated that it was in an experimental stage, and that other and safer anesthetics could have been used in the case.

The case came on for trial before the court and a jury and there was a direct conflict of testimony as to the propriety of using evipal. The issues were submitted to the jury and a verdict was returned in favor of the defendants thereby exonerating them of the charge of malpractice that had been made against them.

---

I sneezed a sneeze into the air  
It fell to ground I knew not where  
But hard and cold were the looks of those  
In whose vicinity I snooze

—*Epitome*

The Sixty third annual convention of the American Association on Mental Defect will be held at the Palmer House in Chicago, from May 3 to 6 inclusive.

# Across The Desk

## Is Homo Sapiens Cracking Up?

THE great dragon-lizards of prehistoric time were lords of all creation for fifty million years, but what became of them?

They cracked up

Preceding them, the giant insects dominated all they surveyed for unknown eons—enormous scorpions prodigious spiders, incredible grasshoppers

Where are they now? Gone Cracked up

If able to think at all, they may have supposed themselves the last word, the final crown, of created beings

That is what man thinks he is—ruler of the world and lord of all he surveys But his reign has been brief indeed compared with the eons of time when the giant insects ruled the blue and the prehistoric monsters bellowed through the jungles Is he, like them, but transitory, a mere episode in the history of our strange globe?

Perhaps

### Breaking Down Internally

Signs that man is beginning to crumble under the strain of his own so-called civilization are remarked by many onlookers That the world has gone mad and civilization is about to commit suicide is so usual an observation that it has become commonplace. We are like dwellers on the slopes of a volcano who pay no attention to its rumblings—until too late

But that is not the worst Our rather tough and boisterous old human race has come through some pretty dark ages of war, war, and then more war, and has somehow emerged on higher levels than before, but now cracks are starting to appear in man's own mental and nervous framework that may show that he is breaking down internally

That is the belief of a scientist who has spent years studying our poor human wreckage He sees "incontrovertible evi-

dence" that "the human nervous system as a whole is breaking down" In fact, "mankind would appear to be cracking" All over the world reports indicate such "an appallingly rapid increase in insanity, crime, exhaustion, and degeneracy" as to "suggest ubiquitous bedlam"

Not only are the figures for insanity "startling," but they are "probably only a reflection of the vaster numbers" on the borderline, not actually committed, but "biologically and medically insane, split and criss-crossed by conflicts of impulse and errors of psychation which plunge them into the deepest unhappiness and suffering"

### A Word to the Wise

It is Dr Louis Berman, of New York City, who paints this dark picture, and the figures he puts on his canvas he takes from cases that have come under his own hand and from official findings that cannot be doubted Crime is rising along with insanity, and the degenerative diseases of the vital organs "have multiplied out of all proportion to the average prolongation of life" Altogether, "physically, as well as psychically, men are showing that they cannot stand the complexities and perplexities of living together under the conditions of our so-called modern civilization" They are cracking up

But right here we come to the vital difference between *homo sapiens*, who knows he is cracking up, and the dragon-lizards, saber-toothed tigers, mammoths, scorpions, spiders, and grasshoppers, which were cracking up, but never suspected it If Mr *Homo* is so *sapiens*, then *verbum sapienti satis*, and Dr Berman gives him the word to save him from going the way of the others Man, it may be, can do something about it, the others could not

To find the roots of crime and of anti social twists and quirks of personality,

Dr Berman examined a group of 250 convicts in Sing Sing prison in comparison with a group of normals in New York City and also examined a group of juvenile delinquents in comparison with a group of normal children. He discovered that both the criminals and the juvenile delinquents showed glandular defects and disturbances two to three times as great as in the control groups, a fact that convinced him that endocrine abnormalities "play a fundamental role" in antisocial behavior.

### Wizardry Steps In

What wizardry it seems, to reach into the human system and, by tinkering with the delicate endocrine glands, to turn a liar and thief into a normal, fine, honest boy. Exactly that was done with Alexander, a lad well on the road to crime. After injections of extracts of the pituitary and parathyroid glands and a helpful change of diet, his teacher said he was "so changed that it seemed almost impossible to reconcile his present behavior with his past." He is now doing well in college. This is only one of several case reports of Dr Berman.

So *homo sapiens* has a hint here, any way, of what he can do to help mend one crack in his make up.

Insanity and crime go hand in hand in this doctor's view, both are antisocial manifestations, both due to imbalance, maladjustment and social disharmony. If we could clear up the crime and craziness in this mad world, or half of it, or a quarter, what a different place it would be. Well Dr Berman figures that over 40 per cent of the inmates of our mental hospitals are sufferers from dementia praecox, which often yields so happily to the new treatment by insulin shock. It is, of course, superfluous to describe the treatment to this audience, or to recount the almost miraculous transformations of personality worked by it. Many pages are devoted to it in Dr Berman's book which is well titled *New Creations in Human Beings* (published by Doubleday Doran).

If, then, we can halt the criminal tendencies of the juvenile delinquents by bringing harmony to their endocrine glands, as we tune the delicate strings of a violin, and if we can brush the cobwebs of hallucination from the crazed mind of the schizophrenic, then we may not only keep *homo sapiens* from cracking and crumbling, but we may make him more *sapiens* than he ever has been.

### Disquieting Questions

Two disquieting questions arise right here. Genius, some say, is a form of insanity. The riotous imaginings of a Dante or a Shakespeare may be but sublimer forms of the hallucinations of the schizophrenic. Michelangelo's glorious dreams in marble and on canvas may only reveal that he was a hyperthyroid. As a matter of fact, Dr Berman takes several pages to prove that Charles Dickens, with his prolific imagination, had thyroid overactivity and parathyroid deficiency. Are you going to end that sort of thing, gentlemen? Are you going to reduce us all to a dead level, turn human kind into human kine, as it were? Think twice about it.

Again, if all the little coming criminals are to be cleverly doctored into little coming saints, is there not danger that the world's history, from then on, will after all be but a dull affair? Glance back a moment. Suppose that Nero had had his glands fixed and become but a fiddler in the Rome Y M C A. orchestra. Suppose that Cleopatra had been well about the opposite of everything she was. Suppose the Borgias had founded a life saving league, that Torquemada had started the be-kind-to-animals week, and Bloody Mary had been so tender hearted that she swooned at the sight of gore. Who would read a history book? The salt would be gone from the story of our race.

Is the world to be reduced to a hum drum level of innocuous desuetude?

No danger. Not if the morning paper is any indication.

W S W

## American Congress on Obstetrics and Gynecology

The American Congress on Obstetrics and Gynecology will be held in Cleveland, Ohio, from September 11 to 15. It is sponsored by the American Committee on Maternal Welfare, formed of representatives of many member organizations, which include the various national and sectional obstetric and gynecologic associations, hospital associations, public-health organizations, and nursing associations.

The purpose of the congress is, as stated "To present a program of our present-day medical, nursing, and health problems, from a scientific, practical, educational, and economic viewpoint as far as they relate to human reproduction and maternal and neonatal care."

There will be sessions for each professional group in the morning with round-table discussions. The afternoon meetings will have papers of general interest to all members attending the congress. The public will be invited to the evening sessions where there will be speakers of national prominence.

The program for the physicians will include among many others such subjects as pregnancy associated with thyroid disease, heart disease, diabetes, tuberculosis, nutritional factors, carcinoma of the female genitive tract, and abortions.

The congress is not planned as a meeting for specialists in any sense of the word but for all physicians who are interested.

### ORGANIZATION

The professional groups included are those interested in and concerned with the problems of human reproduction, maternal welfare, and neonatal care.

1 Medical (a) General practitioners, (b) Specialists, (c) Educators

2 Nursing (a) Institutional supervisors, (b) General and private-duty nurses, (c) Educators, (d) Public health

3 Public Health (a) Administrators, (b) Field workers

4 Institutional administrative (a) Hospital, (b) Outpatient, (c) Educational

### PRELIMINARY PROGRAM OUTLINE

#### MEDICAL SECTION

(Other sectional programs for mornings and round tables will be published as they are available.)

*Monday, September 11, 1939*

The Thyroid and Pregnancy

Heart Disease and Pregnancy

Diabetes and Pregnancy

Tuberculosis and Pregnancy

Nutritional Factors and Pregnancy

The Surgical Abdomen Complicated by Pregnancy

The Treatment of Abortions

*Tuesday, September 12, 1939*

The New Conception of Ovarian Neoplasms

Carcinoma of the Uterus

Endometriosis

Ectopic Pregnancy

Sterility in the Female

*Wednesday, September 13, 1939*

Reduction of the Operative Incidence in Obstetrics

Labor Complicated by the Contracted Pelvis

Dystocia Due to Soft Parts

Pathology and Treatment of the Third Stage of Labor

*Thursday, September 14, 1939*

Present-Day Fundamental Knowledge of Hormones and Endocrine Glands

Problems of Adolescence

Problems of Menopause

Diseases of the Mammary Gland

*Friday, September 15, 1939*

Sulfamidamide in Obstetrics and Gynecology

Pyelitis

Chronic Pelvic Infections

Immediate and Remote Complications Following Labor

### ROUND TABLES

*Running concurrently each day 11 45 to 1 15*

The Toxemias of Pregnancy

Genital Infections

Obstetric and Gynecologic Hemorrhages

The Fetus and the Newborn

Forceps, Occiput-Posterior, and Breech Presentation

Anesthesia, Analgesia, and Amnesia in Labor

### JOINT AFTERNOON SESSIONS

*Monday, September 11, 1939*

Neonatal Care

*Tuesday, September 12, 1939*

Plans for Prevention and Control of Uterine Cancer

*Wednesday, September 13, 1939*

Extension Education on Maternal and Neonatal care

Thursday, September 14 1939

Economic Aspects of Maternal Care

Friday September 15, 1939

Correlation of and Attempt to Digest All Proceedings

JOINT EVENING SESSIONS

Monday September 11 1939

Legal Aspects of Maternity

Tuesday September 12 1939

Humanitarian Aspects

Wednesday September 13 1939

Sociologic Aspects

Thursday September 14 1939

Ethical Aspects

MEMBERSHIP

Membership fee is \$5.00 which includes a year's membership in The American Committee on Maternal Welfare and registration in The American Congress on Obstetrics and Gynecology Cleveland Ohio September 11-15 1939. Applications should be made to the Headquarters Office The Annex, 650 Rush Street Chicago. Make checks payable to R. W. Holmes Treas.

## ONE OUT OF NINE

It is estimated that only one out of every nine syphilitic women who get treatment gets enough to protect the child. The reasons are obvious remarks the *Maternity Center Briefs*. Women do not seek care early and the treatment of which they must avail themselves is all too often so unattractive and so unacceptable to any sensitive women, that it takes more courage than the average pregnant mother has to continue with it. It is discouraging that any one should have to spend time in this day and age urging that needles be sharp that doctors and nurse be

courteous and sympathetic, that privacy be afforded patients and yet the lack of these is the reason why many of the pregnant women known to be syphilitic do not get enough care to protect their babies against syphilis.

This is true all over the country. Clinics are over-crowded, needles are dull, there is no privacy and day after day patient after patient stalks through without hearing the words of sympathy and understanding that encourage her to come for the next treatment.

## AMERICAN BOARD OF INTERNAL MEDICINE INC

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the

secretary before August 20 1939 for the October 16 1939 examination and on or before January 1 for the February 19 1940 examination.

Application forms may be obtained from Dr William S Middleton secretary treasurer 1301 University Avenue Madison Wisconsin U S A

## POWERFUL

One Negro woman to another Has you all bought your tuberculosis seals yet?

No I ain't never bought none. What they for?"

They sell em' to prevent tuberculosis and I buy me fifty cents worth every Christmas and stick em on my chest and I ain't never had tuberculosis — *Southern Hospital*

## BE CAREFUL ABOUT THIS

The octogenarian Mr Jones during an operation for the rejuvenation of youth became very impatient.

Don't be so restless ' growled the nurse

The poor man went on moaning and sobbing

Don't cry the pain will soon vanish,

I'm not crying because of pain," explained the old man "I'm afraid I'll be late for school — *Ill Med J*

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## REVIEWED

**Pediatric Surgery** By Edward C. Brenner, M.D. Octavo of 843 pages, illustrated. Philadelphia, Lea & Febiger, 1938. Cloth, \$10.00.

Conceding essential differences in anatomy, physiology, and pathology, the separate consideration of the surgery of childhood would seem to be justified in the publication of this and similar volumes. There have been other publications on this subject and Dr. Brenner's *Pediatric Surgery* naturally falls in the group of those of real value and interest.

In spite of its considerable length, 843 pages, the treatment of fractures and orthopedic diseases has been left to the more specialized books dealing with these subjects. With a full volume, even after the omission of these topics, it is obvious that the field of pediatric surgery is a broad and important one. Various divisions of the subject, such as Thoracic Surgery, Urological Conditions, Neurological Surgery, and others have been assigned to those specially qualified to describe and discuss them. It is, of course, difficult to exclude from the pages of such a book descriptions of certain diseases of childhood which are more properly considered in the usual textbooks of pediatrics. Their inclusion in this book is obviously for the purpose of featuring their surgical significance, if any. "The child's body is no place for heroic surgery" is the foreword of the author. The surgical treatment of children would seem to be safe in the hands of one who believes in such a practice.

JOSEPH RAPHAEL

**Diseases of the Skin for Practitioners and Students.** By George C. Andrews, M.D. Second edition. Octavo of 899 pages, illustrated. Philadelphia, W. B. Saunders Company, 1938. Cloth, \$10.00.

The second edition of this book is a great improvement over the first which

appeared in 1930. It has been entirely revised, reset, and remodeled. In fact, it can be said that it has even been "streamlined." The original edition contained 1,091 pages while this edition contains 899 pages, but has 75 new diseases added. Also, the pathology of the majority of the conditions described has been added, greatly enhancing its instructive value. The classification is according to etiology with all the dermatoses grouped together that have a common causative agent, such as the fungi in one chapter, the filterable viruses in another, animal parasites in another, etc. Those conditions lacking a definite classification, such as psoriasis, lichen planus, and acne receive a full chapter for themselves.

The treatment throughout the entire book has been greatly revised and brought up to date. Sulfanilamide is discussed from the standpoint of its use in several different conditions and the eruptions caused by it. Roentgen and radium therapy each receive an entire chapter. Where necessary, prescriptions are given in detail, and should prove a big aid to the student and practitioner.

The chapters on ultraviolet and Grenz ray therapy are left out entirely in this new edition.

The book is abundantly supplied with photographs, many of the original pictures being retained and new ones added. They are typical of the conditions described and the reader gets an excellent idea of the disease under discussion.

The subject of syphilis is thoroughly gone into from beginning to end.

All in all, the book is well written, terminology is simplified, and the subject matter is kept as plain as possible, so that it is easily read. There is only one thing missing—a bibliography.

GEORGE F. PRICE

**Eat and Keep Fit.** By Jacob Buckstein M.D. Octavo of 128 pages New York, Emerson Books, 1938 Cloth, \$1 00

In *Eat and Keep Fit* the author has literally packed an enormous amount of valuable information. It is simply and well written. One might quarrel with the ideas on acid and alkaline diets, one misses some of the newer thoughts of the various fractions of the vitamin B complex. On the whole, however, the job of supplying concise, reliable data on the role of diet in the body economy for the layman has been well done.

BENJAMIN M. BERNSTEIN

**Histological Technique For Normal Tissues, Morbid Changes and the Identification of Parasites.** By H. M. Carleton M.A. and E. H. Leach, M.A. Second edition. Octavo of 383 pages, illustrated. New York, Oxford University Press, 1938, Cloth \$7.25

This book gives in compact form the chief methods employed in microscopical examination of human and other mammalian organs. There is a chapter outlining the conception of cells and tissues as complex, colloidal entities which are easily altered by the treatment to which they are subjected. The fundamental processes of fixation, embedding, sectioning, and staining of tissues is described in detail. Several chapters are devoted to methods which are most suitable for the various organs and tissues. Examination of body fluids and dejecta for parasites is described in detail. Many of the pitfalls and means of avoiding them are freely indicated.

EDWARD H. NIDISH

**Thoracic Surgery.** A revised and abridged edition of *Sauerbruch's Die Chirurgie der Brustorgane*. By Ferdinand Sauerbruch and Laurence O'Shaughnessy F.R.C.S. Quarto of 394 pages illustrated. Baltimore: William Wood & Company 1938. Cloth \$13.50

This is a splendid monograph and we were greatly impressed by its scope and wealth of detail. If anything of value to the thoracic surgeon or the general surgeon interested in thoracic surgery has been omitted, we have failed to note it.

Despite the detailed discussion the reading is not tiresome, and the plates are excellent. The indications for and the technique of the various special procedures are clearly stated. This is a worth while addition to American literature on thoracic surgery.

JOHN J. GAINES

**The Compleat Pediatrician.** By Wilburt C. Davison M.D. Second completely rewritten edition. Octavo of 250 pages. Durham: Duke University Press 1938. Cloth \$3.75

The second edition, like the first, is a remarkable and unusual book. To an exceptional degree it does contain the material a practitioner needs in caring for a child.

The form is very much changed. The last numbered section is 243, in the first edition 1937—an emphatic illustration that it is practically, if not literally, completely rewritten. This does not mean less material but regrouping and an entirely different method of numbering.

We would cordially recommend the book to every pediatrician and general practitioner seeing children. For the systematic instruction of undergraduates another type of textbook would seem necessary but even this junior gentleman could have it beside him.

WALTER D. LUDLUM

**Classic Descriptions of Disease.** With Biographical Sketches of the Authors. By Ralph H. Major M.D. Second edition. Quarto of 727 pages, illustrated. Springfield: Charles C. Thomas 1938. Cloth \$5.50

This book, with Garrison's History, Carnac's early collection of classics, Fulton and Long's Readings, Victor Robinson's Pathfinders and the ambitious annual volume of Medical Classics of Emerson Crosby Kelly together constitute a kind of medical bible. They are our sacred books. Medicine, law, and the church have all had their saints, scholars, lawgivers, prophets, statesmen, and soldiers. Major chronicles a goodly number of representatives of medicine falling into one or another of these cate-



gories, more or less metaphorically speaking, with their written gospels, poems, sagas, prophecies, and decrees as imperishable as any left by the hand of man

Being the second edition, Major has added malaria and yellow fever, and revised many of the biographic sketches. There are additional readings and illustrations and the index has been accordingly enlarged

There is a great thrill to be had in reading these 403 selections from the writings of 190 authors, the mature medical mind can recapture here the rapture with which in its juvenile period it encountered the great classics of general literature

We repeat with added emphasis our judgment of the first edition in 1932. For every physician's '6-foot shelf' The outstanding medical contribution of the year

ARTHUR C JACOBSON

**Pathological Technique** A Practical Manual for Workers in Pathological Histology including Directions for the Performance of Autopsies and for Microphotography By Frank B Mallory, M D Octavo of 434 pages, illustrated Philadelphia, W B Saunders Company, 1938 Cloth, \$4 50

This book provides a critical and well-balanced summary of the author's experience of forty-five years in pathology. It is written concisely, clearly, and to the point, including those technical procedures which have proved good and reliable by use over a period of many years

The book is divided into three parts. Part I includes general materials and histologic methods, part II treats of special histologic methods, and part III discusses autopsy methods. The latter is a concise, brief exposition of different methods used in autopsy work, together with a critical discussion of the advantages and the disadvantages of each method and suggestions where each might be of special use.

The book will prove useful to those who have occasion to employ histologic techniques and to perform autopsies

DAVID M GRAYZEL

**Outline of Roentgen Diagnosis** An Orientation in the Basic Principles of Diagnosis by the Roentgen Method By Leo G Rigler Student's Edition Octavo of 212 pages \$3 00 Atlas edition, octavo of 212 pages, illustrated. Philadelphia, J B Lippincott Company, 1938

Omitting any discussion of biophysics and technic, as well as lengthy discourses on the physiology of various mechanisms of bowel behavior, Rigler presents the fundamentals of x-ray interpretation in brief, concise outline form for both students and practitioners. The sections on the heart and mediastinum are especially good, these being for many years the object of special study by the author. Almost one third of the book is devoted to the gastrointestinal tract including recent work on cholangiography

The book has a great deal to recommend it, despite the objection that some may raise to the format. For the use of students there is a paper covered edition without x-ray reproductions

ANDREW M BABEY

**Practical Otology** By Morris Levine, M D Second edition Octavo of 416 pages, illustrated Philadelphia, Lea & Febiger, 1938 Cloth, \$5 50

It was our privilege to work with Dr Levine many years ago, and as we read his second edition of *Practical Otology* we could feel throughout the volume the dynamic personality of the individual, filled with the desire to learn and to transmit his learning to those associated with him as physicians or as students. The author transmits to the reader the essence of otology gathered from a rich experience both in clinical work and in teaching. This book has been prepared with the idea of simplicity, yet it carries with it a completeness that makes both a text and a ready-reference not only for the student and practitioner but also for the otologist. There are many very fine illustrations, both clinical and anatomic, which are an asset to the book and of great value to the reader. We unhesitatingly recommend this work

SAMUEL ZWERLING

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

MAY 15 1939

NUMBER 10

---

## *Editorial*

---

### No Political Ties

Many physicians and laymen are asking whether there is any tie between organized medicine and the Gannett Committee which is fighting the Roosevelt Administration and the New Deal. The answer to this question is an unequivocal 'No'.

Organized medicine has no part in partisan political controversies. There is as much variation in the political ideas of physicians as of any other cross section of the public. Medical organizations have neither the desire nor the right to impose a political credo upon their members.

The Gannett Committee is fighting compulsory health insurance as part of its general attack upon the New Deal and increased governmental domination of the individual. Physicians are opposed to compulsory health insurance because they consider it a costly, cumbersome way to deliver inferior medical care. Agreement on this one point does not mean a general political alliance.

Physicians of various shades of political thought have allied themselves with the Gannett Committee's fight on compulsory health insurance because they believe this group can muster strong articulate opposition to a system in which they sincerely disbelieve. Their union with the Gannett Committee on this issue does not necessarily indicate political agreement all along the line, any more than the projected alliance between England and Soviet Russia means that Mr. Chamberlain has turned Bolshevik.

There are physicians working with the Gannett Committee who are in complete agreement with its entire program. Others are supporting the fight against compulsory health insurance but are in strong sympathy with other New Deal objectives. In either case

it must be understood that their acts are in the public interest. Organized medicine welcomes support in its effort for a democratic control of practice but it has no alliance with any groups and is not committed to any party.

## The Legislative Picture

The legislature has been in session four and a half months and a number of bills in which the profession has an interest have come before it. In the brief remaining period before adjournment physicians should redouble their efforts to secure the passage of desirable measures and to defeat undesirable bills.

First on the list of measures deserving immediate consideration is the Hanley-Mailler physicians' lien bill. This is in any real sense a landmark measure. It merely guarantees payment of services rendered in accident cases when the injured person is unable to pay award of money with which to defray medical and hospital bills. Hospitals and lawyers already enjoy this protection. It is a valid reason for discriminating against physicians. Legislation for this purpose should be made to Hon. Oswald D. Brown of the Assembly, Hon. Irving M. Ives, Majority Leader, and Hon. Irwin Steingut, Minority Leader.

The Piper bill for nonprofit medical expense indemnity is another measure calling for early adoption. This practice of voluntary insurance would ease the financial burden on the low-income class without sacrificing the quality of medical service or opening the door to the practice of medicine by corporations.

The Williamson bills limiting the practice of roentgenology to licensed physicians and the Giordano bill providing medical care for home-relief patients are also deserving of immediate medical support. There is still time to put these worthwhile measures through if a concerted drive is made for them.

On the negative side are several bills that must be defeated. Bills threatening the independence and integrity of medical practice are to be particularly guarded against. Chief among these are the Wagner and Boccia compulsory insurance bills, the Milmoie osteopathy bill, and the Esquimaux bill legitimizing the practice of medicine by medical service corporations. Opposition should concentrate on these dangerous measures.

The legislative committees of the state and county societies should be vigilant and energetic in defense of sound medicolegislative principles. Their influence is greatly enhanced, however, by individual expressions of opinion confirming their stand. A personal letter or call is often more effective than a printed petition bearing many signatures.

signatures The individual practitioner has the power to influence medical legislation if he only chooses to use the simple but effective weapons at his hand

## New Drugs for Glaucoma

Glaucoma, whether it be of the acute congestive, aphakic, traumatic, buphthalmic, or chronic simple type, is an illness of such serious import that any advance in its conquest is especially deserving of comment Hitherto, the use of miotics, particularly pilocarpine and eserine, and the institution of surgery have been the mainstays of the ophthalmologist Unfortunately, the latter procedure has in the past been attended by the danger of hemorrhage into the eye which resulted from the sudden lowering of pressure

Clarke,<sup>1</sup> basing his work on a sound pharmacologic basis, has found that acetyl beta-methylcholine (mecholyl), when injected retrobulbarly, lowers the blood pressure, produces miosis, results in stimulation of the parasympathetic, and causes a rapid fall in the intraocular tension When combined with prostigmin, it is even more effective in acute glaucoma since it acts synergistically with this drug Untoward effects may be noted following the use of mecholyl which may assume serious proportions but if the dose is kept below 0.03 Gm., these reactions can be obviated In allergic individuals the use of this drug is contraindicated because of the danger of sudden death from respiratory failure

The fact that in 75 of the 100 cases treated Clarke was able to establish normal tension and maintain it by this and other methods of treatment, and in 17 others to bring his patients to the stage where surgical intervention was relatively safe, is in itself sufficient to warrant further trial of these two drugs in the treatment of glaucoma

## Sugar Metabolism with Vitamin B<sub>1</sub>

It is a difficult task to keep up with the rapid developments in the field of vitamin therapy Since the availability of vitamin B<sub>1</sub> in synthetically pure form as thiamin chloride, it is being widely used clinically for various conditions Because of this fact, observations are being recorded following its use, which at times seem paradoxical The appearance of herpes zoster, as noted editorially in a former issue of the JOURNAL,<sup>2</sup> is but one of them Others are more important

<sup>1</sup> Clarke, S. L.: *Am J Ophthal* 22: 249 (March) 1939  
<sup>2</sup> *New York State J Med* 39: 403 (Mar 1) 1939

because they present problems for the practitioner in the diagnosis and therapy of diabetes

It is established that vitamin B<sub>1</sub> materially influences the metabolism of carbohydrates in the body, but the complexity of the effect on sugar metabolism is evident from the reports of Watson<sup>1</sup> and of Hart and Wise<sup>2</sup>. The former records a case of a known diabetic who was maintained in good health and whose urine was kept sugar free by the administration of 32 units of insulin per diem. Following six injections of thiamin chloride for neuritic pains (2 mg per diem) marked pallor, sweating, and other symptoms of an acute hypoglycemia occurred, and this attack was relieved by taking barley sugar. What is even more significant is the statement of the patient that during the period he was being given vitamin B<sub>1</sub>, he required considerably less insulin to keep his urine sugar free.

On the other hand, Hart and Wise report an opposite effect from thiamin chloride. In a patient who had been receiving 4 mg of thiamin chloride daily, an examination of the urine showed a marked reduction of the Benedict's solution. The fasting blood-sugar content was found to be only 90 mg, and following a high carbohydrate diet, the urine was again examined and found to be negative for sugar. In 3 other patients who were taking 6 mg of thiamin chloride daily, the Benedict test was negative.

We are apparently faced with two new problems in the diagnosis and treatment of diabetes which are the result of the use of vitamin B<sub>1</sub>. Is it not possible that the treatment of diabetes with insulin may be amended in the future when exact knowledge of the role of vitamin B<sub>1</sub> in carbohydrate metabolism is available? In the meantime, physicians should be on guard against hastily diagnosing diabetes mellitus on the finding of a positive Benedict test in a person who has been taking concentrated doses of this vitamin.

<sup>1</sup> Watson, A. G. Brit Med J, 2: 1111 (1938).

<sup>2</sup> Hart, R. S., Wise, L. E. J. A. M. A., 112: 423 (Feb. 4) 1939.

### DR. CHARLES H. GOODRICH

The sad news has just been received that after a short illness, Dr. Charles H. Goodrich died on May 6.

He was so recently actively engaged among us that it becomes difficult to reconcile ourselves to the reality that this useful life is finished. For many years, in various positions in the Kings County Medical Society and in our State Society, he served organized medicine with great distinction. As president of our Society, his executive ability, his unvarying courtesy, his toleration of opposing viewpoints, and his steadfast trend toward the goal in view made his administration distinctive. Personally, a lovable character, seeking to do justice to all, he endeared himself to all who worked with him.

The Medical Society of the State of New York has lost a wise counselor and guide. Many of us feel that we have lost a friend.

We shall remember him. His good works are his epitaph.

## Current Comment

Whether the plan for amplifying the care of the sick on a nation wide basis has any merit or not, it certainly involves an expense of colossal proportions, and the question can easily be raised as to whether the same end might not be attained by other means "The Burning Question" discussed in a current issue of the *Weekly Roster and Medical Digest*

"It does seem to me that there has been an unwarranted amount of mud slinging in the direction of the doctors in the past year or two. No doubt the mud has been slung for a purpose, namely, to discredit the profession by painting it black in order to put across someone's ideas on socialized medicine. This is an old trick used by politicians and others for many years. And innocent victims frequently have paid a terrible price for the loose talk of those who oppose them.

'Medicine has been its own watchdog, and in that capacity it has certainly protected the public against the quack and the charlatan to whom the sale of drugs and cures is a purely business proposition, measured only on a basis of dollars and cents and not by results.

'Certainly the doctors will be the first to agree that the poorest family in the United States should have proper medical care, for they have been setting a voluntary example of social responsibility ever since the first physician started practicing on these shores. So they are not unreasonable in demanding that they have a good bit to say about any plan that is put into effect." From a commentary to be found in a recent issue of the *Allen town (Pa.) Chronicle and News*

'American people are the easiest people in the world to deal with, because they have an open mind." A statement made by Oswaldo Aranha, Brazilian foreign minister, when visiting here. When we think of the medicosocial problems confronting our people now, we hope he

means that the American people will listen to both sides of a question, not that they will listen to anything—propaganda or truth—and indiscriminately believe what they hear.

Liberals originally, as the name implies, like the earlier Whigs, believed in the policy of voluntary cooperation. Their political philosophy rested on the basis of the right of individual liberty, limited only by the equal rights of others. Consequently their test of each and every State interference with individual freedom was whether that specific interference was strictly and absolutely necessary in order to maintain the equal freedom of others. They had no respect whatever for the principle of immediate expediency in questions of State interference. While it might be ever so expedient for the State to step in on this or that situation and take charge of it while there might be a good deal of inconvenience and trouble accruing if the State did not step in, nevertheless unless it were proved *necessary* for the State to step in for the maintenance of equal freedom, they were against its doing so. Their root principle was that when it is not *necessary* for the State to act, it is necessary for it *not* to act. 'Albert Jay Nock in the *May American Mercury*

The brain is guided by logic. The heart leaps in response to impulses that are more powerful than logic has ever been. They whose hearts are in the right place are foremost when duty has to be done, when the impossible has to be achieved. Their education is glorified by courage." *The Commentator* May issue.

'There are certain children about whom democracy is especially concerned in these times and must be the children of the unemployed, other children with

out adequate shelter or food or clothing, children of migrating families, children confronted with discrimination and prejudice, children beyond the reach of medical service, children denied help in attaining faith in an ordered universe. Not till these and such as these are included in democracy's concern can we feel secure about its future. They have become an 'integral part of democracy' and not merely a 'segregated group' for whom provision is to be made as of some body apart." The *New York Times* of April 28 comments on President Roosevelt's remarks made in his opening address at the Fourth Child's Conference, held recently at the White House

. . .

"Lump together all the nobodies who have misgoverned France since 1870, and put them against the two names of Curie and Pasteur—how about that? Is it not at least conceivable that two hundred years from now the name of Hitler will be remembered only as belonging to somebody or other who ran Albert Einstein out of Germany? I speak of this because there is taking place in this country a movement which is making real history, and which I think is perhaps not fully recognized as so doing. We all know it is going on, but I doubt that we

have taken its measure as the most important movement of our time—ininitely more important than the whole sum of intrigues, connivings, threats, lies, and general swineries which are the 'news' of the period, and which we regard as making up the history of the period. I refer to the great westward migration of European culture, and the effort to transplant it in this hemisphere. Culture's refugees, therefore, come from all Europe to our universities, our press, our urban centers of creative activity. They come out of all peoples, nations, and languages, bringing their big and little hoards of cultural experience and creative intuitions and artistic energies.

"What will come of it is, of course, quite beyond prediction. The long and short of the situation seems to be that we are fast falling heir to a couple of thousand years of civilization, whether we will or no. The legacy is being dumped in our lap without so much as a by-your-leave. We have, then, the responsibility of choosing whether we shall welcome it as a windfall. If we do, here is the greatest chance that has ever come to any people."—The opinions of Albert Jay Nock, in an article "Culture Migrates to the U S A," from which we have quoted. It may be read in its provocative entirety in the April *American Mercury*.

---

## Correspondence

### To the Editor

In your April 15th issue of the *New York State Journal of Medicine*, page 771, appears an editorial on "Absorbic Acid." We would appreciate any information you can give us as to just what this is, and where it may be obtained. Thanking you for this courtesy, we are,  
Rochester, N Y      Very truly yours,  
April 28, 1939      Paine Drug Company

. . .

It is the little slips like this that turn an editor's hair gray, make his nerves

jumpy, and bring him to the palatial parlors of the mortician before his time. How they happen is beyond human ken. Our editorial, of course, was plainly concerned with "Ascorbic" Acid, obtainable from most drug firms, and not with "Absorbic Acid." *Ascorbic Acid* is the name for *Cervitaminic Acid*, a synthetic vitamin C.

We are happy to note the interest our correspondent evinces, and thank him for being among those who brought this to our attention.—*Editor*

# ANATOMICORADIOGRAPHIC STUDIES OF THE SPINE

## Changes Responsible for Certain Painful Back Conditions

LEE A. HADLEY, M D, Syracuse, New York

IN A CONSIDERATION of the causes of backache it is necessary to bear in mind the posterior joints and also that "crossroads of neuralgia," the intervertebral foramen. Exclusive of costal articulations there are normally fifty-one small diarthrodial joints in the spine. Each one of these has the same fundamental structure and is subject to the same types of injury and disease as the larger joints of the body. Sprains, partial dislocations, and arthritis are frequently encountered. The fibrous tissue of the spine is known to be well supplied with sensory nerve endings. The intervertebral foramen transmitting the spinal nerve is a bony ring partially bounded in back by the posterior joint and in front by the intervertebral disk. Referred pain is likely to result from pathology within the foramen secondary to disturbances of these adjacent structures.

Two types of degeneration of the intervertebral disk have been described. The type observed in early life is characterized by herniation of the nucleus pulposus, either through a break in the cartilaginous plate into the vertebral body or through the annulus fibrosus into the spinal canal. The latter condition may or may not produce symptoms by pressure upon the cord or nerve roots. The disk degeneration noted in later life is characterized by fragmentation of the cartilaginous plate with granulation tissue growing from the adjacent vertebral body into the disk and later replacing it by fibrotic tissue or bone. These interesting pathologic conditions of the disk are not of themselves painful. Nerve endings are present in the ligamentous tissue of the spine, but not in

the disk. The symptoms result from secondary disturbances of the foramina and posterior joints.

Degeneration of the disk produces a thinning of this structure, thus bringing the vertebral bodies closer together. If the posterior articulations do not slip past each other, kyphosis results at this level, a condition usually encountered in the dorsal or upper lumbar region. Thinning of the disk in the cervical or lower lumbar region usually produces a subluxation of the posterior articulations, resulting in the following possible causes of localized or referred pain:

1. Strain upon the ligamentous structures of the articulations.

2. A disturbance in the relationship between the articular surfaces. Due to the inclined plane of the posterior articulations, subluxation from thinning of the disk may thrust the lower vertebral body forward beneath the one above, so that the intervertebral foramen is decreased not only in its axial but also in its anteroposterior diameter.

3. With encroachment of the intervertebral foramen there may be fibrosis about the nerve root bundles giving rise to symptoms of radiculitis.

4. In extreme cases, bony impingement between the tip of the articular process and the pedicle above or the lamina below may cause pain. At first, the tip of the articular process presses against the periosteum-covered bony surface, later, notches may be eroded in the bone by this pressure. The condition is best seen in the stereoscopic 45-degree oblique lumbar view (Fig 1). It may also be recognized by a break in the S-curve as seen in the anteroposterior view.

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 12 1938*





FIG 1 Oblique roentgenogram (retouched) made with the sagittal plane of the patient at an angle of 45 degrees to the horizontal plane. The third disk is normal, the fourth disk is thinned by an old herniation of the nucleus pulposus, sclerosis about this herniation is shown as a semicircle at X. Line A represents the normal interpedicular diameter of the third intervertebral foramen. B is the contracted interpedicular diameter of the fourth foramen. The normal third apophyseal (posterior) articulation is shown at C, but D, the fourth articulation, is subluxated, so that the superior articular process of the fourth body impinges against the lamina of the fifth at F. This patient had lumbar pain with unilateral muscle spasm of six months' duration, relieved after fifteen months of immobilization by plaster and a brace.

### Description of the S-Curve

In the anteroposterior view, centering through an intervertebral disk of normal thickness in the lower lumbar region, an S-curve can be traced. The line follows the undersurface of the transverse proc-

ess and the lateral surface of the inferior articular process, then crossing the apophyseal joint it extends along the lateral surface of the superior articular process from the body below. This curve is seen best if the plane of the articulation is nearly sagittal, but it can be made out even when the articulation is more nearly transverse. In case there is an apophyseal subluxation, such a view shows a jog in the S-curve at the point where the posterior articulations have slid past each other.

In certain cases of marked lordosis, some of the patient's weight is thrust backward onto the posterior articulations of the spine, so that subluxation of these joints may take place. In cases of scoliosis, there may be subluxation if sufficient rotation of the spinal bodies has not occurred, usually, however, even in extreme scoliosis, apophyseal subluxation does not seem to be present if the bodies are rotated. As a result of injury or thinning of the anterior portion of the disk, reverse subluxation of the apophyseal joints may be visualized as a pulling apart of the articular processes.

Exostoses from the disk and posterior joint margins especially in the cervical region tend to encroach more or less upon the intervertebral foramina. These spurs are much more extensive than they appear on the film. In this connection it should be noted that detached fragments of bony tissue frequently form in the substance of the disk margins. Care must be exercised not to misinterpret these as fractured exostoses. Normally the nerve occupies about one-sixth to one-fourth the diameter of the foramen. The remainder of the space is taken up by lymph spaces, blood vessels, areolar and fatty tissue. Bony- or fibrous-tissue encroachment may constrict the foramen to the size of the nerve which may even become flattened in a ribbonlike manner. In examining cadaver material the nerve can usually be separated within the foramen by blunt dissection but in other cases it appears to be adherent and surrounded by fibrosis.

Anterior flexion of the cervical region, as in the lumbar region, increases the diameter of the intervertebral foramen while dorsal extension constricts it. Also the foramen is constricted by rotation or flexion toward it and enlarged by the opposite movement.

This probably helps to explain the production of pain upon certain movements in cases of foramen pathology. These patients not only complain of local pain, tenderness to deep pressure, muscle spasm, and limitation of motion from posterior joint derangement, but also frequently suffer from radiculitis as well.

### Radiculitis

In the cervical region this condition is characterized by pain referred to the shoulder, arm, or hand and corresponds in distribution to that of the involved nerve root. With dorsal radiculitis the patient complains of intercostal or abdominal pain which may be confused with angina, gallbladder, abdominal, or even pelvic disease. Lumbar radiculitis produces sciatic pain. The pain of radiculitis is not infrequently aggravated by coughing, sneezing, or bearing down—the so-called Dejerne's sign. The spinal fluid protein may be increased. Not all patients, however, suffering from radiculitis exhibit foramen encroachment upon x-ray examination. Many of them are relieved by small doses of radiation therapy applied to the nerve roots.

### The Anterior Curve

A lateral roentgenogram of the normal cervical spine at rest reveals the bodies arranged in a symmetrical anterior curve. Upon anterior flexion of the neck the curve is reversed but it always remains symmetrical at all points. In the cadaver specimen it is impossible to produce angulation at one point without cutting the posterior joint capsules at this level. Following severe trauma, x-ray of the cervical spine may show the normal anterior curve replaced by angulation at one point. This probably indicates a partial bilateral subluxation of the posterior joints with muscle spasm. Uni-



FIG. 2. Congenital fusion of the second and third cervical segments—both the bodies and arches fused. Normal anterior curve replaced by traumatic angulation with partial subluxation of the posterior joints between fifth and sixth vertebrae (arrow).

lateral subluxation is not unusual but is difficult to visualize.

### Fusion

Bony fusion of the spinal segments is frequently met with in the cervical region.



FIG 3 Forty-five-degree oblique view of the cervical spine showing the normal relationship of the foramina, posterior arches, and pedicles

Certain cases are probably congenital and others are undoubtedly secondary to degenerative change of the intervertebral disks. Either the bodies, lamina, or the posterior joints may be fused (Fig 2). Some of the foramina are constricted in diameter while others are normal in size. One clinical significance of fusion is that it decreases the flexibility at certain points and places greater strain on the remainder of the cervical region.

### Gliding Movement

X-ray studies of the cervical and lumbar spine taken in extremes of flexion and extension reveal that anteroposterior movement is achieved not only by com-

pression of the disk between the bodies but also by a gliding movement of each vertebral body backward and forward on the one beneath it. This movement must be a factor in producing wear upon the disk with a resulting degeneration of this structure. In the neck the point of greatest amplitude of this gliding is about the midcervical region which corresponds to the level of most frequent disk degeneration. In the lower lumbar region this gliding movement is somewhat less marked. Thus we find that the intervertebral disk is not only a buffer and a hydrostatic ballbearing but that it also acts somewhat as a bursa to facilitate a gliding movement between the vertebral bodies.

### Radiographic Technic for Cervical Foramina

The film is made with the patient sitting upright, spine erect, chin up, and the shoulder of the side to be visualized against the vertical plate holder. The latter should be at such a height that the upper end of an 8 by 10 cassette is on a level with the patient's ear. Arrange the transverse plane of the shoulders and the sagittal plane of the skull each 45 degrees to the plane of the film. The head may be steadied by a support between the cheek and the plate holder. Direct the central ray downward 10 degrees and toward the midcervical region.

### The Oblique Cervical Film

A film of the cervical spine made according to the above technic normally reveals all of the cervical foramina (Fig 3). There is no foramen beneath the first segment. The topmost or second cervical is oval and those below this point are shaped, as Schmorl<sup>1</sup> has described, somewhat like the "sole of a shoe."

Posterior to the foramina the laminae of the same side of the arch are seen in section. In the normal spine these appear in a smooth, sweeping curve and are about equidistant. Any malalignment in this curve or irregularity in the spac-

ing of the sections indicates a disturbance in the structure or the articulation of the cervical units

The pedicles on the side opposite to the visualized foramina appear as a curved line of small equidistant oval shadows. If correct technic has been used in making the film this line of pedicle shadows will intersect the shadows of the vertebral bodies near their anterior surfaces. In certain cases of cervical spine disturbance these pedicles may be distorted in shape, size, spacing, or alignment.

Backache from reflex causes, metastases, cord tumor, anemia, diabetes, and other local or systemic conditions can hardly be discussed in a paper of this length nor can therapy be properly considered. It should be mentioned, however, that conservative treatment has proved valuable. In the acute cases rest on a very firm bed either with or without extension and heat with gentle massage for the muscle spasm are indicated. Ambulatory cases require support, strapping, a brace or molded jacket followed by graduated exercises as the condition improves. As I previously reported before this medical society,<sup>2</sup> radiation therapy in small doses applied to the nerve roots is of distinct benefit in certain cases of radiculitis. Patients unrelieved by conservative measures may require spinal fusion or facetectomy, as described by Williams.<sup>3</sup>

### Synopsis

There are two distinct types of pathological change in the intervertebral disk which produce thinning of this structure. Thinning allows the vertebral bodies to approach each other, resulting in apophyseal subluxation or slipping of the posterior joints. This is shown by a break in the S-curve. Pain may be caused by bony impingement of the tips of the subluxated articulations or by constriction of the foramina (Fig 4). Decrease in the foramen diameter results from apophyseal subluxation, hyperplasia of connective tissue, or exostoses, particu-



FIG 4 Patient complained of severe pain with muscle spasm of the neck and shoulder. Bony encroachment of third, fourth and fifth foramina. Second sixth and seventh appear normal. Compare with Figs 3 and 5

larly in the cervical region (Fig 5). Angulation of the cervical spine may follow trauma and results from a bilateral subluxation of the posterior joints at the involved level. Congenital or acquired fusion of adjacent segments is not infrequent in the cervical region. In this region also pathology of the intervertebral foramina and posterior arches is revealed by the oblique studies. Sections of the foramina may reveal crowding of the nerve root in certain cases. Study of the anteroposterior flexion of the spine reveals an extensive gliding motion between the bodies, particularly in the midcervical region. Wearing of the disk by this natural function

is offered as an explanation of the frequency of disk degeneration in this area

## References

- 1 Schmorl Georg, and Junghanns H Die Gesunde Und Krank Wirbelsaule im Roentgenbild Lipzig, Georg Thieme 1932
- 2 Hadley, L A. New York State J Med, 31 1325-1329 (1931)
- 3 Williams, P C, and Yglesias, L J Bone & Joint Surg 15 579 (July), 1933

## Discussion

Dr James P Cole, *Buffalo*—Dr Hadley has brought to our attention and clarified to a great extent some of the more obscure lesions of the spine that produce disability. The small degenerative processes mentioned are difficult to diagnose without a thorough and careful examination of roentgenograms. I feel that if we follow the technic that is advocated by the author very often lesions will be discovered that might have been overlooked in the ordinary plates.

I heartily agree with what has been said concerning the production of radiculitis from degenerative processes of the apophyseal joints of the spine, or slipping of these joints. It is also true that anomalous conditions of these joints will produce the same syndrome. Motion of the apophyseal joints is usually essential for the production of symptoms from the radicles of the spinal nerves or from fascial changes in this type of case. Malformed apophyseal joints and hypermobility of these joints will also jeopardize the intervertebral nerves.

It has been mentioned that thinning of the intervertebral disks decreases the size of the intervertebral foramina with the causation of radicular pain. As an example of this I would like to point to the observation that the fifth lumbar root canal is decreased in size following thinning of the intervertebral disks, causing posterior displacement of the fifth lumbar vertebra.

My personal experience with the use of the S-curve, as described by Dr Hadley, is very limited. My sentiment is that the tracing of this curve would be of value in the lumbar region of the spine when one is dealing with these inconspicuous lesions of the spine.

The obliteration of the normal anterior curve of the cervical spine has been mentioned following certain traumatisms to this region. It has been my experience to find that, if this situation exists, the lateral articulations are either partially or completely subluxated with tearing of the capsules of these joints.

Perhaps I have misconstrued what has been

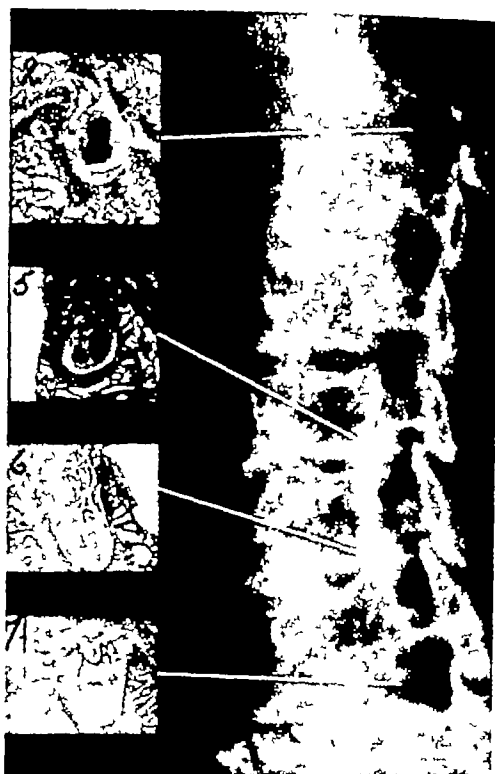


FIG 5 Oblique X-ray of cadaver specimen with sections cut from the foramina as indicated. Numbers 2 and 7 normal in size with the nerve root surrounded by blood vessels, fatty and areolar tissue. Bony and fibrous encroachment of the fifth and six foramina with crowding of the nerve root downward. Compare with Fig 4.

said concerning the gliding of vertebrae on each other. I have always been of the impression that there was never any actual gliding between normal vertebrae but a tendency to glide. I would like to ask Dr Hadley if I am right in this assumption.

I know that the author has had a great deal of experience with this subject and has made many observations of the spine in cadavers. I would like to inquire if he has observed that the intervertebral canal carrying the fifth lumbar nerve root is decreased in size in comparison to the other lumbar nerve canals?

There are some observers who do not believe that changes in structure of the spinal apophyseal joints can produce a radicular type of disability and therefore I know this paper is of timely interest. Due to this fact I compliment Dr Hadley on this excellent article as well as for the publication of many related articles that have appeared in the literature in the past few years.

# MEDICAL ACADEMIES PAST AND FUTURE

JOHN F. FULTON, M.D., New Haven, Connecticut

(From the Laboratory of Physiology Yale University School of Medicine)

**M**EDICAL academies have flourished for many centuries among democratic peoples. It was about three hundred years ago that the first medical academy, which has continued since its foundation, came into being. Three important scientific societies also sprang into existence at the same time, and I think it no accident that such groups of thinking men began to explore the secrets of nature at a time when certain nations had begun to demand more liberal representative government. In any country the story of the early medical academies is one rich in human interest, but I shall limit my discussion to two countries and to two themes, and then conclude with brief comments upon the present and future of academies of medicine in the United States. The two countries I have in mind are England and Germany—let me hasten to add, England and Germany of the seventeenth century—and the two themes one, that medical academies and scientific societies grew up and thrived quite independently of the universities, and secondly, that they generally flourished best in those countries where men were at liberty to foregather with one another and freely to speak their minds. Fielding Garrison points out<sup>1</sup> (p. 287) that the early medical academies were derived from the medieval guilds. He then adds 'In the face of much futile speculation as to the origin of guilds, they were in the last analysis, but a natural expression of the herding instinct of mankind, the tendency of people of similar type to flock together, on occasion, for cooperative or self protective purposes. This associative spirit, common to all warm blooded

animals, probably goes back to prehistoric times and was doubtless a going concern in ancient Egypt or Babylon."

## England

In January, 1639—just three hundred years ago—John Milton was traveling in Italy, still a man in his early thirties. The *Ode on the Nativity*, "L'Allegro"

Il Penseroso,' and "Comus" were all behind him, and 'Lycidas' had just been published, and there had already developed in his mind, perhaps fully by 1639, his great plan for 'Paradise Lost,' but this was interrupted by news of troubles at home.<sup>2</sup> He abandoned his trip and his plan for writing, and soon returned to throw himself into the historic struggle for supremacy of democracy and parliamentary government. Milton's prose became at once as great as his poetry, he first attacked the autocracy of the church, then the divorce laws, and in June, 1644, the *Treatise of Education* appeared in which he inveighed against the authority of the universities, on November 24, 1644, came "Areopagitica," the greatest plea for free speech ever written by an Englishman—or by anyone else, for that matter.<sup>3</sup> Finally, Eikonoklastes in 1649, and in 1651 and 1654 he published his first and second 'Defense' of the English people—that people which in 1648 had beheaded its monarch. These were the years, ladies and gentlemen, during which the first scientific academies came into existence. These groups were an expression of a great liberal movement in thought—a movement that manifested itself, not only in science, but in art and literature, and to a large extent also in the lives and

Read January 11, 1939, at the convocation called to dedicate the new home of the Rochester Academy of Medicine, Rochester, New York

labors of humble men. The medical academies of our own day are a direct outgrowth of this movement, and as such represent a precious part of our liberal heritage—a thing that we must defend and nurture at a time, be it said, when there are too few who raise their voices after the manner of John Milton. To re-echo the thought of Wordsworth<sup>4</sup>

“Milton! Thou should'st be living at  
this hour  
England hath need of thee ”

There were, to be sure, scientific and medical organizations before 1639. The Royal College of Physicians of London, for example, was founded by Henry VIII in 1518—more than a hundred years earlier—but this organization did not originally, and has not since, fulfilled the functions of a medical academy.<sup>5</sup> There were, no doubt, other and short-lived medical societies before the seventeenth century, but my point is that, if they existed, they did not flourish, and the literature of the sixteenth century gives us only fleeting records of such organizations.

The academy of which I wish to speak first is the Royal Society of London. In his *Treatise of Education*, Milton had protested that the universities were backward, not only in science, but in the teaching of other disciplines as well. Actually no one of the sciences, except astronomy and mathematics, was formally taught in any of the universities prior to the seventeenth century, and when the experimental method was revived by Galileo and William Harvey the universities remained resolutely set against the introduction within their walls of this new philosophy and procedure.<sup>6</sup> The best intellects, however, were drawn toward these new ideas. In the early forties, there began to meet together in a London tavern such men as Robert Boyle, Glisson, Wilkins, Wallis, and later Christopher Wren, with the expressed purpose of “advancing natural knowledge by means of experiment.” They were influenced no doubt by Harvey's dis-

covery—they all knew William Harvey, for he did not die until 1657—and they were also moved by the writings of Francis Bacon, whose *New Atlantis* had appeared posthumously in 1627. This young group of young enthusiasts, who referred to themselves as the “Invisible College,” met intermittently during the troubled period of the Civil War, the Commonwealth, and the Protectorate, and finally on November 30 in 1662 they received a royal charter and thus became officially recognized as the “Royal Society of London.” Since then, on the 30th of November each year—for two hundred and seventy-six years—they have met without fail for their annual convocation. The early members were industrious minute-takers, and they have left a full record of their deliberations, in 1665 also they began to publish their proceedings under the now familiar title of the *Philosophical Transactions of the Royal Society*. I need scarcely mention that many of the most important early contributions to medicine and physiology appeared in these *Transactions*, since at that time there were no other medical journals. The early members, such as Richard Lower and Robert Boyle, were deeply interested in problems of medicine: blood transfusions, respiration, the structure and functions of the heart, etc., and I would like to read a few characteristic passages—not from the *Philosophical Transactions*—but from their early minute book.<sup>8</sup>

October 1, 1662

“Dr Wren proposed the experiment of forcing up water in two pipes of different diameters and equal altitudes, but having both in the lower end equal bores, the water in the larger pipe would be forced out by less strength than that in the smaller pipe. He was desired to bring in a description of this experiment, and something by way of account concerning it, at the next meeting.

“Dr Wren presented some cuts done by himself in a new way of etching, whereby, he said, he could almost as soon do a piece on a plate of brass, as

another should draw it with a crayon upon paper

Dr Wren observed, that the grafting of a root upon a tree, and so setting it within the ground, makes it thrive very well

'The experiment of lifting up bellows under water was made, and Dr Goddard, Dr Whistler, and Dr Wren were desired to prosecute the same''

Mention of Christopher Wren prompts me to digress for a moment to consider his early career, since it illustrates in a vivid way the versatility and omnivorous curiosity of that virile age. Born in 1632, Wren attended Westminster School where he distinguished himself at mathematics and Latin, he left the school when he was fourteen, and became Sir Charles Scarborough's demonstrator in the anatomical theater at Surgeon's Hall (London), here he had unusual opportunities for dissection and, on his own initiative, developed exceptional skill in injecting anatomical specimens. In 1649 at the age of seventeen he matriculated as a Commoner at Wadham College, Oxford, taking his degree in 1651. Wren remained in Oxford until 1657 when he accepted the Chair of Astronomy at Gresham College in London, but in 1660 he returned to Oxford to the Savilian Professorship of the same subject. Some time before 1663 he assisted Thomas Willis, physician at Oxford, in preparing drawings of anatomical dissections, Willis mentions, incidentally, that Wren drew the celebrated figure of the base of the brain illustrating the arterial circle. I have always suspected, therefore, that it was Wren and not Willis who made the discovery of the circle,<sup>6</sup> because the vessels that he drew had evidently been injected and the plate itself is very much clearer than Willis' description in the text.

Wren was also responsible for directing interest to the possibility of blood transfusion. His experience with injections had led him quite naturally to consider the possibility of introducing substances into the blood vessels of living animals

This he did sometime before 1657 and Sprat<sup>10</sup> records that 'By this *Operation* divers Creatures were immediately purged, vomited, intoxicated, killed or revived, according to the quality of the liquor injected. Hence arose many new *Experiments*, and chiefly that of *Transfusing Blood*, which the *Society* has prosecuted in sundry instances, that will probably end in extraordinary Success'' Actual transfusions were eventually carried out by Lower in 1665. Several human beings were transfused in 1667 without ill-effect, but fears were aroused when dogs who had been transfused were found subsequently to "piss blood." However, it was gravely suggested by some that the senile might be rejuvenated and conscientious objectors made more warlike by giving them a little fighting blood.

But to return to Wren, Sprat describes<sup>10</sup> many other of his activities during this early period. One finds sentences such as (pp 316-317)

*He has invented a very curious and exceeding speedy way of Etching. He has started several things towards the emendation of Water works. He has made Instruments of Respiration, and for straining the breath from fuliginous vapours, to try whether the same breath so purified will serve again.*

He was the first *Inventor* of drawing Pictures by Microscopical Glasses. *He has found perpetual, at least long lived Lamps, and Registers of Furnaces, and the like, for keeping a perpetual temper, in order to various uses, as hatching of Eggs, Insects, production of Plants, Chymical Praeparations, imitating Nature in producing Fossils and Minerals, keeping the motion of Watches equal in order to Longitudes and Astronomical uses and infinite other advantages''*

Boyle, who also refers frequently to Wren, describes at length in the *Usefulness of Experimental Philosophy* 1663, an operation devised by Wren for the removal of the spleen. It is a most creditable surgical procedure and it is interesting that to diminish suppuration



*Academica naturæ curiosorum sive ephemeridum medico-physicarum Germanicarum curiosarum* contains in the preface an appeal "to physicians to devote themselves to science." The *Philosophical Transactions*, which had just started in England, are referred to as their model, they were to differ from the *Philosophical Transactions* in publishing only in the field of medicine, botany, anatomy, chemistry, pathology, and physics. The editors explained the need of the undertaking they proposed on the ground that the spread of beneficial knowledge is slow and that unless some such method as a medical paper were devised it was impossible to reach the busy man. As a symbol of the society the ship "Argo" was adopted, the golden fleece signifying scientific truth<sup>12</sup> (p. 171). There were papers in the first volume by the early presidents, twelve of the twenty-seven papers being on zoology, and much space was devoted to pathological monstrosities. Several years ago in one of these early volumes I found the first reported case of a cerebellar tumor with autopsy.<sup>17</sup> Hydrocephalus is depicted and seizures of opisthotonos are described in detail which allow one to identify them with classical jacksonian cerebellar seizures. It will interest Dr. van Wagenen that there are many other cases of brain tumor reported in these early volumes, in one of which a bold surgeon made an attempt to remove a bony exostosis. The roots of the public-health movement and of modern epidemiology may be traced in these early contributions. Here then is the first medical journal in the history of our art\* brought out by the first medical academies.

---

\* It is sometimes stated that Thomas Bartholin's *Acta medica et philosophica hafniensia* was the first periodical devoted to medicine. The first volume did not actually appear until 1673 (for the years 1671 and 1672). This also represented an activity of an early medical society, "Societas Regia medica Hafniensis," and is therefore interesting in showing that another democratic country felt the need of a channel of publication at this same time. Thereafter, medical journals, as every medical librarian knows to his or her sorrow, began to spring up in every country and almost every town—like mushrooms (Garrison<sup>1</sup>).

## Academies of Medicine in the United States

An existing institution cannot readily be understood without the study of its origins, and I therefore hope that the foregoing historical details may aid us in formulating a definition of the functions of an academy of medicine in this country, now and in the future. It may perhaps seem a long jump from the Leopold Academy to the present moment, but I am not sure that this is the case. Although the European press is at present unreliable in its information, I believe the Leopold Academy still exists, and it would be difficult to imagine any institution that is more likely to weather the present hysteria in the German Reich than this ancient academy. To be sure, it has lost—only temporarily I hope—many of its foremost members, but no government, however hysterical, can wholly ignore the value of public service.

If this academy has served the people of Rochester, as well as its members, no cataclysm in Washington or Albany, or in Chicago, can seriously affect its future. I know enough of the local history of this place to realize that the contribution of the Rochester Academy of Medicine to the public good is one that makes it—and other American medical academies that have had similar public-spirited guidance—well-nigh impregnable. As an example, one need only mention the work of one of your most distinguished members, Dr. George Goler, a great pioneer in the public-health field, who gave you clean water and much else, through his work in the municipal health department. With the late Professor Charles Dodge, he was among the first to use diphtheria antitoxin in this country (1894). No community can afford to forget these things—and I look upon it as one of the primary duties of an academy such as this to see to it that the community does not forget.

In a changing social order, strongly swayed by new and perhaps more liberal philosophies of government than we have

known in the past, a democratic institution such as this has two primary responsibilities, one to its own members and the other to the lay public which it also serves. To its members, it must give protection and service—protection, especially from a few irresponsible members of an honored sister profession, who concern themselves more often with breaking than making the law of the land, protection also from politically influential reformers who have not practiced the art, protection, finally from certain reactionary demagogues within our own ranks, who mistake fascistic practice for democratic principle. To its members, a medical academy must also give service, especially intelligence service, and the backbone of an academy is its library. The standards of any medical community or a university can be judged, and are judged, by the strength of its library and the quality of service it renders both to its members and to the lay public. I know too little about the happy circumstances that made possible the magnificent structure that we are now dedicating, but it surely stands as a symbol of the high esteem in which this academy is held by the citizens of Rochester, I venture to think, however, that the intellectual edifice that lies within will be even more important to the community in future years than the attractive house that gives it shelter. I have often wished that Oliver Wendell Holmes had written his 'Chambered Nautilus' in reference to a library rather than to the stately mansions within man's soul. No matter what happens in the social order, if you have built a lofty intellectual mansion within this place, it will become a citadel to which you can repay with almost every problem. So it would seem that, having been so fortunate as to acquire this spacious home, it becomes incumbent upon you to strengthen your library to a corresponding degree. With Mrs. Cooksley's wise assistance, this should not prove difficult, and she no doubt looks forward to the time when the new stack room will be filled and blockaded with unshelved books and to

another ceremony such as this which will be held to dedicate the new wing—a stately mansion—of the library!

It was mentioned earlier that in a democratic state an academy of medicine must serve, not only its members, but also the lay public, this phase of its responsibility, however, is seldom discussed. The respect in which any profession is held varies with the extent to which it has won the confidence of its public. It is unfortunate, as some of you must already well know, that the American medical profession has within the past year seriously lowered its prestige in the eyes of the American public at large. This is not the place to analyze the reasons, but I have no hesitation in mentioning one infallible remedy that this academy has already discovered, i.e., the importance of educating the lay public of the community in the affairs of medicine, its aims and objectives, and the standards of conduct and service that it wishes to maintain. The public is also entitled to have sane counsel concerning other things, such as health examinations, the communicable diseases, especially those of venereal origin, and malignancy, finally, with the modern high pressure radio advertising, the public needs added protection from the ever-growing multiplicity of drugs and nostrums. These things can and should be provided by a modern medical academy, and your facilities for doing them are now vastly increased.

I said in the beginning that scientific societies, and especially medical academies, have developed independently of the universities. As a sociological institution, you are, therefore, older than any school of medicine, you feel the public pulse—especially the dicrotic notches—with more sensitive fingers than do they, and historically you have played a larger part, certainly abroad, than they in bringing about many reforms in medical education and in the public health field. But now your academic baby, after a stormy adolescence, is reaching its maturity and is striving to live at peace with

its parents and its benefactors. A wise father takes pride in a precocious offspring, and a child of such lineage will ever respect and assist the parents who gave it birth.

The Eliot inaugural address was delivered seventy years ago at a time when no university had assimilated its medical faculties. Another significant inaugural address, delivered in this town,<sup>18</sup> a little over three years ago, indicates how points of view have advanced since Eliot's time, science and medicine were accepted by Mr. Valentine with a gracious welcome. Would it be ungracious of me to suggest that it is no accident that the universities of the world have flourished in a manner unknown in previous centuries since they accepted medicine and science within their walls? However this may be, we are still very new and sometimes a little uncomfortable in these studious surroundings, and no university—except possibly Rochester—seems to know quite what to do with us. Even Charles Eliot complained of his obstreperous colleagues in the Harvard Medical School. The reason is not far to seek—for the status of a medical faculty in a university has never been determined in our new social order, and each new university president, if he is wise, tries a new experiment. Parts of some faculties have been put on so-called "full time", the physicians seem to take this better than the surgeons. But I think the real difficulty lies in the fact that no university has ever ventured to define the precise relation of a university medical school to the community it serves. My conviction is that, while they travel along somewhat different ways, the responsibilities of a university medical school are precisely the same as those of a medical academy. Their aims and aspirations are the same to advance the art and science of medicine, to educate the public as well as the profession, and finally between them to provide adequate medical care for the community. In the highly uncertain state of institutions of higher learning in this country, the future of our profession lies in the

democratic academies of medical service whose building we dedicate tonight. They will be supported in accordance with the service they render, and, as such, they are a primary, permanent bulwark of modern medicine.

I would like before leaving to make a small contribution to your library in the form of an early volume from the first medical journal—the *Miscellanea curiosa* of which I have already spoken. I hand it to you, sir, as a sincere token of my appreciation and esteem.

## References

- 1 Garrison, F. H. *Bull. Inst. Hist. Med.* 2: 285-343 (1934).
- 2 Masson, D. *Life of John Milton*, 6 vols.
- 3 Milton, J. *Areopagitica*, London, 1644.
- 4 Wordsworth, W. *Poems in Two Volumes*, London, 1807.
- 5 Munk, William. *Roll of the Royal College of Physicians*, London, Published by the College, 1878. 3 vols.
- 6 Fulton, J. F. *Yale J. Biol. & Med.* 3: 299-320 (1931).
- 7 Masson, I. *Nature* 113: 197-199 (1924).
- 8 Birch, T. *The History of The Royal Society of London for Improving Natural Knowledge*, London, A. Millar, 1756-1757, 4 vols.
- 9 Morison, S. E. *The Development of Harvard University Since the Inauguration of President Eliot, 1869-1929*, Cambridge, Mass., Harvard University Press, 1930. xc, 660 pages.
- 10 Sprat, T. *The History of the Royal Society of London for Improving Natural Knowledge*, London, J. Martyn, 1687. 8 II, 438 pages.
- 11 Abderhalden, E. *Zum Tage der 250. Wiederkehr der Erhebung der am 1. Januar 1652 gegründeten privaten Akademie der Naturforscher zur Sacri Romani Imperii Academia Caesareo-Leopoldina Naturae Curiosorum durch Kaiser Leopold I. In Festgabe aus Anlass der 250. Wiederkehr des Tages der Erhebung der am 1. Januar 1652 gegründeten privaten Akademie zur Sacri Romani Imperii Academia Caesareo-Leopoldina Naturae Curiosorum durch Leopold I.*, Halle, 1937 [pp. 5-11].
- 12 Ornstein, Martha. *The Role of Scientific Societies in the Seventeenth Century*, Chicago, The University of Chicago Press, 1938, xviii, 308 pages.
- 13 Neugebauer, J. D. F. *Geschichte der kaiserlichen Leopoldina Carolinischen Akademie der Naturforscher während des zweiten Jahrhunderts ihres Bestehens*, Jena, Frommann, 1860. viii, 336 pages.
- 14 Rauch, Renate. *Verzeichnis der periodischen Schriften der Bibliothek der Kaiserlich Leopoldinisch Carolinischen Deutschen Akademie der Naturforscher Sitz in Halle. In Festgabe zur Sacri Romani Imperii Academia, usw.*, Halle, 1937, xi, 186 pages.
- 15 Abderhalden, E. *Bericht über die Tätigkeit der Kaiserlich Leopoldinisch Carolinischen Deutschen Akademie der Naturforscher vom 1. April 1933 bis 31. März 1937. In Festgabe zur Sacri Romani Imperii Academia, usw.*, Halle, 1937, 59 pages.
- 16 Abderhalden, E. *Bericht über den Verlauf der Feier der 250. Wiederkehr des Tages der Erhebung der am 1. Jan. 1652 gegründeten Academia Naturae Curiosorum zur Sacri Romani Imperii Academia Caesareo-Leopoldina Naturae Curiosorum durch Leopold I.*, 28 bis 30 Mai 1937. *In Festgabe zur Sacri Romani Imperii Academia, usw.*, Halle, 1937, 67 pages.
- 17 Fulton, J. F. *J. Nerv. Ment. Dis.* 70: 577-583 (1929).
- 18 Valentine, A. *The Aims of Education*. Nov. 14, 1835. Privately printed. 18 pages.

## TUBERCULOSIS OF TENDONS, TENDON SHEATHS, AND BURSA ABOUT THE HAND

FRANK N. POTTS, M D, Buffalo, New York

**T**UBERCULOSIS involving the tendons tendon sheaths and bursas proximal to the wrist is not commonly seen, as it is not a common complication of bone and joint tuberculosis. There is little in medical literature referable to this condition and statistics are not available as to the frequency of this lesion as compared with other types of tuberculosis. Like other tuberculous lesions, it is probable that early recognition and properly directed treatment will lessen the pathologic process and increase the degree of functional recovery.

Definite knowledge of this lesion is dated from that time when histologic and bacteriologic studies were possible. Prior to that, observers were restricted to such observations as they could make and such clinical studies as were available. There was a constant question in the early writers' minds as to whether they were dealing with a sarcoma, a simple cyst, or a hygroma. Tuberculosis of the muscles and tendon was described in 1863 by Latour and Depres but demonstration showing the giant cells were probably first made by Hoeffman in about 1875. There was considerable controversy relative to this being a primary secondary lesion.

Kanavel in 1923 reported 14 cases. A recent survey in a large sanatorium for tuberculosis makes no mention of tuberculosis of the tendon or tendon sheaths and it is not possible to determine from the statistics presented whether or not some of the cases of tuberculosis of the carpal bones might not have been preceded by infection of the tendons and sheaths. I have recognized only 3 cases.

The diagnosis was proved by section. The lesion can occur at any age and the reported cases are mostly in young adults,

although those under my observation were over 50 years of age. The consensus of opinion is that the lesion is a secondary one. One of my patients had recently been discharged from a sanatorium as an arrested pulmonary case. Another showed no evidence of any other involvement. There are several cases reported that show no evidence of any other lesion. The disease is usually unilateral with a strong preponderance in the right hand the palmar surface being most frequently involved. Gillies has recently reported a case involving both hands. It is of extreme importance to determine the relation of injury as an etiologic factor. Opinions differ, some holding that trauma is a dominant factor others that such is improbable. It is not unlikely that trauma plays a part. One can believe that tissues of the hand can become traumatized and, because the vitality is impaired, readily have tuberculosis superimposed. Likewise, it is possible that the infection can enter through the skin, and a previous infection nontuberculous in nature, may be a predisposing factor. My first patient worked in a fertilizer works. It was his duty to shovel the dead carcasses and parts, sort same, and weigh them. Much of this material was tuberculous. The little finger of the left hand had a bone scratch became infected, drained for some time, then healed over. The finger remained thick and somewhat restricted in both flexion and extension although there was no joint lesion. Six months later there was a swelling on the ulnar side of the wrist, on the palmar surface. Biopsy showed this to be tuberculosis. My second patient had had a crushing injury to the second finger at the proximal phalanx, left hand and this became swol-

len and sensitive three days later. Both conditions persisted. Twelve weeks later there was a swelling on the palmar surface of the forearm just above the annular ligament. Biopsy proved this to be tuberculosis. My last case does not give a satisfactory history of injury, but has a definite active lung lesion. It is of great importance to industry to determine the relation of injury to this disease.

### Pathology

The pathologic findings vary greatly, due most likely to the duration of the disease. The earliest lesions are chiefly those of an irritation to the synovial tissue, but specific in nature—a simple synovitis. The tubercle bacillus may be found in this stage with the fluid slightly turbid, or it may contain small flakes of necrotic tissue. The synovia of the sheath or bursa may be thick or thin. It may be smooth and glistening, or may be thick, congested, and studded with small reddened elevations, granular in texture. The sheath may be spotted with tubercles. Apparently the disease does not necessarily spread by proliferation alone. The sheath may be adherent to the tendon in places, varying in extent from a few cm to 8 or 10 cm. The tendon becomes altered, no longer retaining its glistening white appearance, but now having a yellowish tinge and a dull surface. The disease may have progressed to a villous stage where the sheath has become quite thick, gray, or even a dark red color. At this time the sheath is quite adherent to the tendon, and may with difficulty be separated from it.

From this stage on, the necrosis takes place. The tendon may become frayed and even necrosed to the extent of losing its continuity, and the bursa presents very much the same appearance. There is considerable distention with fluid or with funguslike material. In the earlier stages the wall is thickened, the fluid is thin and slightly turbid, and the tendons are clearly defined and freely movable. On the escape of the fluid, the wrist appears normal. Later, the ten-

dons may be so matted together as to make their identity difficult. The entire bursal space may be filled with a red, thick, granular mass that extends down into the hand and along the tendon sheaths into the fingers. The presence of rice bodies is variable. They are described as appearing in the later stages of the disease. Mumford believes that they are built around giant cells that are extruded from the deeper layers of synovial sac. Rogers describes finding the tubercle bacillus in the homogeneous masses constituting the rice bodies, which, when found, are usually in large numbers. Their appearance would suggest that they are all of practically the same age. Blodgett believes they always mean tuberculosis. Tubby believes them pathognomonic of tuberculosis. They are not always present, however, no matter how far the disease has progressed. They may not be observed on opening the bursa above the wrist, but may be expressed into this space from the palmar bursa. It is not believed that they are present in the tendon sheaths, but rather only in the bursal sacs.

The disease may progress to the stage of caseation. At this time the contents of the bursa and sheath have changed to the stage where the familiar caseation of tuberculosis is present. The tendons may be undergoing this advanced change of necrosis and fragmentation and yet be able to perform, to a degree, their normal function. The thick, red, funguslike mass surrounding the tendons has undergone caseous degeneration and there is some cloudy fluid and shreds of tendon. This tuberculous abscess may then rupture and numerous sinuses appear, which may become secondarily infected. Observers have noted the presence of marked scar tissue evidencing attempt at repair. This scar would involve several of the tendons, making a firm mass. Lisfranc and Chassagnac thought this represented sarcoma, but it was later shown that it was tuberculosis.

When one considers the relation of the tendons to the bursas and their close rela-

tion to the many small joints, it would seem improbable that tuberculosis could involve one type of tissue and not eventually involve the others. Zahnert states that there is no authenticated case of tuberculosis of a tendon wherein the muscle is not involved. No other writer has expressed a similar opinion. The disease does extend to the joints, and may involve the skin. Zahnert states that it is rare for the tendon to become involved in a case of joint tuberculosis.

The symptoms are those of a slowly progressive swelling, which may arise in the involved finger, but is more commonly noted in the palm or in the wrist. There is some impairment of use and a sense of stiffness, there is some degree of pain, which is more probably dependent upon the degree of swelling and stiffness than the fact that the tendon sheaths are undergoing change. Pressure over the swelling produces tenderness. The proximity of the median nerve in the involved area gives rise to symptoms, which vary from tingling in the index, middle, and ring fingers, to numbness. At times the discomfort is that of a burning sensation to a marked degree. There is not as a rule a great deal of pain, but rather a continuous ache. This can be differentiated from the discomfort that arises from the motion of the roughened tendons in the thickened sheaths. Crepitation, very coarse, may be detected in the bursas above the wrist. The swelling at first is not tense, and pressure on it may force the contents either into the palm or from the palm to the space above the wrist. This is likewise noted when rice bodies are present. Constitutional signs and symptoms are lacking unless the primary focus is active. The patient may appear unusually robust and be in what he considers excellent health, he is inconvenienced rather than incapacitated. He may have been working a good many months with very little discomfort.

A case is reported where the patient discredited the diagnosis and continued at his work, apparently with no ill effects.

## Diagnosis

A differential diagnosis considers chronic tenosynovitis, not tuberculous, inflammatory masses, syphilis, and tumor. Chronic tenosynovitis would have a history of a period of onset and acute symptoms with crepitation very early, pain, and inability to use the part, then the gradual subsiding of these symptoms with the enlargement residual. Inflammatory masses should give a history of infection and swelling with temperature and redness and constitutional symptoms. Syphilis and tumor must be considered, and a negative Wassermann reaction would be helpful in the former. A patient with swelling in a finger or in the wrist, with or without history of injury or infection, with probable tuberculosis of the lungs or having had tuberculosis of the lungs with evidence of its being arrested, with negative x ray and negative Wassermann, and without constitutional symptoms, should arouse one's suspicions. A definite diagnosis can only be made through biopsy and animal inoculation. A histologic study of the removed tissue shows the presence of marked endothelial proliferation with many tubercles in the connective tissue surrounded by caseous degeneration. Around these areas of necrosis is marked lymphocytic and endothelial infiltration. Properly stained specimens may show the tubercle bacillus.

## Prognosis

If we accept the principle that this is a secondary lesion, the prognosis is fairly good. However, the extension to the surrounding tissues, especially to the bone, constitutes a very serious complication—serious from the viewpoint of function rather than mortality. The very nature of the tissues involved renders complete eradication extremely difficult. Unless all the diseased tissue can be removed, the possibility of cure is remote. Cases are recorded in which presumably all infected tissue was removed, a long period of arrest enjoyed, but where later the infection again became evident. The ability of the patient to handle the primary focus would be a

larger factor in the progress of the secondary lesion. Complete extirpation of the infected tissues offers the best prognosis. If the process is limited to one tendon sheath, or to the bursa, it is possible to accomplish this, although it becomes less probable as the involved areas increase in number and extent. When the problem is limited to the elongated sac, comprised of the palmar bursa, it is most hopeful. The prognosis is distinctly better in younger patients, and is probably better in this type of tuberculosis than in most others, because the possibility of complete eradication does exist as the parts are accessible.

### Treatment

Much can be done for tuberculosis of the tendon sheaths and bursa. It responds both to conservative methods and to radical surgical therapy. A case uncomplicated by an open lesion can be properly splinted, the hand and fingers kept at rest for a long period, and good results obtained. This procedure has been carried out for many years with satisfaction. The swelling subsides, the symptoms disappear, and the function to a large extent is recovered. It is a long, trying procedure. The tendons become involved in scar tissue and there is lost motion at the wrist and in the fingers, which necessitates many months' treatment to overcome. Careful attention to a primary lesion is necessary. Even under the most careful hygiene the lesion may progress. We are still dealing with tuberculosis and there never has been a substitute for physiologic rest. Efforts at surgical intervention have their place. Aspiration of the fluid and the injection of iodoform emulsion is mentioned in an article written in 1928. In those cases that are limited in their extent and are approachable, complete extirpation combined with splinting and x-ray therapy offer the best possible results.

If a primary focus is determined and it is active, the case is a sanatorium type. Prolonged rest, fresh air and heliotherapy, and x-ray therapy for the infected

hand is the indicated program. A cockup splint should be applied and the fingers immobilized until the swelling disappears, and then the function will be gradually restored. X-ray treatments are continued by exposure every two weeks. Under favorable conditions, marked improvement will be seen in from four to six months. The pain is lessened, the swelling subsides, and the use of the hand does not aggravate the infection. This patient may be cured or may be an arrested case for several years. With the use of x-ray treatment, which I believe should be continued for at least a year, he is able to return to work.

In the light of our present knowledge preference must be given to the surgical extirpation of the tuberculous tissue. The disease is more quickly eradicated, function more quickly restored, and the possibilities of extension lessened. In the absence of sinuses and secondary infection it is a safe surgical procedure. Consideration in electing the case must be given to other tuberculous lesions. I should consider the following points in elective operative treatment: that it be a proved case of tuberculosis, that there be no demonstrable active lesions other than the one to be operated, that there be no secondary infection in the hand, and that there be no more than one and preferably no involvement in the tendons of the fingers. Under these circumstances a general anesthetic is given and a dry field obtained by use of either an Esmarch, or better, the cuff of a blood-pressure apparatus with pressure about 25 mg. above the individual's normal pressure. This can be released from time to time to lessen the pressure on the musculospiral nerve. The operation may be rather long, depending upon the amount of dissection necessary. As a rule, both radial and ulnar bursas are involved. The incision is on the palmar surface in the middle of the wrist and forearm and extends above and below the annular ligament. Great care is taken to avoid the nerves. The tendons are freed from the tuberculous tissue. Dissection is carried down to the surface of

the pronator muscle, and as far as possible the tuberculous tissue is removed in a mass. The wound is then closed and the hand splinted for several days. If there is no lesion complicating the parts operated, such as in the carpal bones it is well to start function as soon as the wound has healed. X-ray treatment should be given twenty four hours before and within a week after the operation. The x ray has been given every two weeks, an exposure of five minutes using 5 ma., 3 mm of aluminum, 9 1/2 inch sphere, gap spark, twelve-inch distance.

### Case Reports

*Case 1*—W G male 55 years old General Hospital No 200,335 examined October 29 1929. He had been at present place of employment fifteen years. P.M.H. was unessential and negative for any sustained illness or acute infectious diseases. Numerous injuries in the nature of scratches about the hands and fore arms were observed. He had many slight infections which always healed. He was employed in a fertilizer plant handling bones hides and animal scrap and shoveling and weighing same. His complaint was a painful swollen right wrist of one week standing because of which he was unable to work.

In May 1929 he sustained a laceration and subsequent infection in the right little finger. The active infection subsided and the swelling became less noticeable but did not entirely disappear. This later became more noticeable and the swelling involved the forearm. Local treatment resulted in improvement. He lost several weeks work in the summer in an effort to hasten recovery. In October the swelling was again noted there was pain in the wrist and some restriction to motion. On examination there was no other lesion determined than at the right hand and wrist. The fifth finger was swollen at the proximal phalanx, there was no swelling in the palm but there was a definite swelling on the flexor surface of the right forearm. Coarse crepitation was felt and heard in the mass, and the mass and swollen finger were sensitive. No enlarged lymphatics were felt and there was no evidence of acute inflammatory reaction. X-ray examination of hand and forearm was negative for bone or joint pathology and Wassermann reaction was negative. In predion chronic tenosynovitis ganglion or possibly tuberculosis. Biopsy fascia over anterior surface of wrist greatly distended on

incision a deep red fungallike mass seen surrounding the tendons and extending under the annular ligament. The tendons could not be easily separated from the mass. No unusual bleeding from the mass, and no free fluid or pus could be seen.

*Diagnosis* tuberculosis. A section was reported as showing many giant cells many tubercles lymphocytic reaction, and tuberculous granulation tissue. A guinea pig inoculation was positive and the histologic diagnosis was tuberculosis.

The wound healed quickly and has remained so. The swelling never entirely subsided the swelling in the finger subsiding to a large extent but not entirely. The pain was distinctly lessened. The patient returned to work June 1 and has continued to date. The treatment consisted in keeping the hand up on a cockup splint for five months during which time he received x ray therapy at two-week intervals. The crepitation in the tendons has disappeared and swelling has not increased in either the wrist or finger. Examination of the chest shows apices, hazy especially the left. Upper left lobe shows increased density probably the result of pleurisy.

This case had a definite infection in the little finger. He worked in animal scrap, some of which was undoubtedly tuberculous. He appears to be a healthy man. X-ray of the chest shows evidence of old pleurisy. He has a proved tuberculosis of the bursa in the wrist. With a short period of rest and continuous x ray treatment he has shown no advance of the disease and is clinically greatly improved.

*Case 2*—S M white Polish male aged 53 General Hospital No 210 552, examined December 1930. P.M.H. negative for prolonged illness or other injuries except for a crushing injury to the left second finger several years previously. The patient complained of pain in the left second finger and a swelling in the wrist on the flexor surface. He stated that in August 1930 he had pinched his left second finger between a core and a core carrier. It hurt him at the time but not severely. He continued at work but about a week later noticed a swelling at the proximal phalanx. There was some stiffness in the finger. He noticed a painless swelling in the wrist and the flexor surface on December 14. On examination of the left hand a definite cylindrical swelling was seen in the second finger



at the proximal phalanx. The greatest amount of swelling was on the flexor surface. It was not acutely inflammatory, it was sensitive only at the flexor surface. Motion in the finger was not painful unless the motion was made against resistance. The motion in the finger was somewhat restricted at the interphalangeal joint and at the metacarpal phalangeal joint. The swelling could not be expressed into the palm. There was a swelling above the wrist on the flexor surface that was greater toward the radial side of the hand. This could be pressed into the palm, causing a definite swelling here. There was no discomfort arising from pressure on the wrist bursa. There was some slight loss of both flexion and extension at the wrist. The other fingers were not involved. The epitrochlear node on the left arm was enlarged but not painful. The axillary nodes were not enlarged or sensitive. Examination of the chest did not reveal any pathology. An x-ray examination of the hand showed normal bone and joint tissue and no evidence of disease of the chest. A primary focus of tuberculosis was not discovered. The Wassermann test was negative. Impression tuberculosis of the flexor tendon of the left second finger and of the wrist bursa. Biopsy: a section of the flexor tendon sheath showed same to be thick, not edematous, a pale, dull white, and not adherent. On excising the wrist bursa, the mass was thick, the bursa was distended with thin, cloudy fluid, and numerous small flakes of necrotic tissue or pus were seen. The wall of the sac was lusterless and gray in color. The bursal wall was not adherent to the tendons, although the tendons were adherent to each other, forming a gray matted mass. The incisions were then closed.

Diagnosis: tuberculosis granulation tissue. In this section there were no giant cells. The entire specimen was infiltrated by many round and few plasma cells. This specimen was from the bursa. The section from tendon sheath showed typical tuberculosis with very distinct epithelioid and giant cell tubercles. A guinea-pig inoculation was positive for tuberculosis. The incisions remained healed, and the swelling in the wrist has not increased in size. It was of course much smaller after the operation because of the removal of the fluid. It is not painful. There has appeared along the tendon in the palm a cylindrical, nonsensitive mass that I believe is an extension along the tendon sheath. The hand is on a cockup splint and the patient is receiving x-ray therapy every two weeks. This impresses me as a favorable case for operation, but permission has not yet been granted.

Case 3—J S, white, German male, aged 50, General Hospital No 211,410, examined January 23, 1931. P M H disclosed that the patient had been confined in a tuberculosis sanatorium for two years because of "pleurisy," and had been discharged as an arrested case in 1928. He complained of pain in right palm and wrist, and stated that while carrying a quarter of beef, he had turned same over on a block and felt pain in the right wrist. Two days later, while hanging up a quarter of beef, he again felt the same type of pain in the wrist. He was treated for three weeks for rheumatism. The hand was then x-rayed and a diagnosis of fracture of the semilunar was made. The hand was then splinted for three weeks and the swelling subsided to a marked degree. After being out of the splints for about three weeks, the pain and swelling recurred. He had returned to work, but had great difficulty in continuing. At the time of my examination there was swelling in the palm of the right hand and in the wrist bursa. On pressure over either swelling the contents could be forced into the other space. There was restriction to flexion and extension at the wrist. There was no involvement in the fingers. There was a stinging pain in the palm of the hand. The epitrochlear nodes were enlarged but not sensitive, and the axillary nodes were palpable. The man is thin, poorly nourished, and unhealthy looking. Examination of the chest shows râles in the upper right chest, but no sputum. X-ray of the chest shows considerable increased density and mottling of the upper lobes of both lungs, perhaps more on the right side, and evidence of a small cavity on a level with the third right rib in front.

Diagnosis: tuberculosis. X-ray of wrist shows area of rarefaction between the cuneiform and os magnum. What was mistaken for a fracture of a semilunar is an arthritis spur. The original x-rays showed the same process, except that later films show extension of same, and a more definite rarefaction. Biopsy: an incision was made over the distended bursa in the right wrist. Considerable turbid fluid was removed but no pus or evidence of necrosis was seen. The wall of the sac was thick and numerous fibrous strands were seen extending down into the cavity and attached to the tendons. The tendons were surrounded by a dark gray, thick fibrous tissue. This was easily separated from the tendons and did not bleed. Pressure on the bursa in the palm forced fluid into the opening in the wrist. Some of this fluid was sent to the laboratory, and a portion of the bursal wall was removed for section. Diagnosis: tuberculosis. Laboratory report: many cells were seen. Diagnosis:

typical tuberculosis. A guinea pig inoculation was positive for tuberculosis. This patient has tuberculosis with cavity in the lungs tuberculosis of the carpal bones, and of the wrist and palmar bursas. I classify him as a very poor surgical risk. He should be in a sanatorium. While receiving treatment for tuberculosis, he should have his hand splinted and have x ray treatment given it.

### Conclusions

Tuberculosis of the tendons, tendon sheaths, and bursas is not frequently seen. It is probably a secondary lesion. Diagnosis can and should be proved by biopsy. It responds to treatment, a very important part of which is the extirpation of the lesion whenever this is possible. X

ray treatment is a beneficial therapeutic adjunct and should be continued for a very long time. Undoubted cases of cure are recorded. It is interesting to note in reviewing the available literature that no mention is made of tuberculosis involving the tendons of the lower extremity, although mention is made of involvement of the bursa around the great trochanter.

### References

- 1 Blodgett J. Bone & Joint Surg. (July) 1927
- 2 Dietrich München med. Wchnschr. 1925
- 3 Gillies J. Bone & Joint Surg. (Jan.) 1931
- 4 Hoeftman Cited in Kanel's article.
- 5 Kanel Surg. Gynec. & Obst. (Nov.) 1923.
- 6 Latour and Depres Zahnert's article.
- 7 Mumford J. Bone & Joint Surg. (July) 1927
- 8 Lorenz: Cited in Zahnert's article.
- 9 Schoenbauer Klin. Wchnschr. (1926)
- 10 Zahnert: Deutsch. (Ztschr.) f. Chir. (1929)

### WHY THEY DON'T HEAR

Only about half of the adult population of the nation claims to have normal hearing according to random samplings made in connection with United States Public Health Service surveys.

Findings also revealed that only 56 per cent of these people who think they hear perfectly passed audiometer tests for normal hearing. Many failed to hear the very high and the very low tones.

It was demonstrated through tests with bone conduction vibrators placed on the mastoid bones that these losses for high tones are due to primary degeneration of the acoustic nerve. This degeneration results from infectious processes associated with certain systemic diseases—such as scarlet fever, meningitis, diphtheria, in

fluenza and the like—as well as from local infections of the middle ear (otitis media). The common head cold is a frequent cause of these middle-ear infections.

The study of hearing loss among persons having noticeable impairments of hearing for speech reveals many new facts. Loss of hearing due to congestion and lesions of tissue in the middle ear without accompanying injury to the acoustic nerve, is found to be characteristic of deafness among children of public-school age. Practically all deafness among persons over 25 years of age involves some degree of nerve degeneration. This degeneration is more localized among males and rather widely distributed throughout the ear among females.

### SAVING LITTLE EYES

As a result of increased educational activities in recent years rapid strides have been made toward the conservation of eyesight, particularly among children according to the annual report of the National Society for the Prevention of Blindness, Inc.

Blindness due to one ailment alone has been reduced by 75 per cent during the last thirty

years during which the society has functioned the report points out. This is ophthalmia neonatorum which frequently causes blindness at birth. The society's report emphasizes that the 75 per cent reduction in the victims of this malady was accomplished "because an organized program was carried on to save sight for tomorrow."

# THE NATIONAL HEALTH PROGRAM

HAVEN EMERSON, M D , New York City

**I**T IS A proper and obligatory function of government to undertake the collection of facts that may disclose the state of the public health, to interpret these facts in a way to develop an understanding by the public of the need of improvement in conditions that may be affected by governmental services, and to propose plans for public consideration and present projects of law and appropriation to put such plans into effect

Such functions are defined in the basic public-health laws of most states and of large cities that operate under charters that authorize their independent enactment of local sanitary codes

That the federal government should have assumed such a function is not unreasonable, but inasmuch as the constitution reserves to the sovereign states the exercise of the police power within which is included the function of public health, our reasonable curiosity is aroused when the national government assumes responsibility for activities for which state and local governments are charged with the primary responsibility

Why this national survey of chronic and other disabling sickness, generally called a National Health Survey? In what aspects of preventive medicine have we fallen so into arrears that we must be piloried before our neighbors and by presidential declaration as having "grossly inadequate public-health services?" Where has there been more, or more recent, progress in life saving? Where is the care of the sick more generously, more skillfully, more humanely provided, for such a continental population? Where is the evidence that a third of our people are in sickness without medical care which they need, know they need, and want but cannot get?

Before we accept the evidence that has

been offered that a serious national dereliction exists and demands sudden, extreme, and very costly remedies, and before we acknowledge the reasonableness of the deductions presented to the conference of last July or accede to the plans urged upon Congress by the federal promoters of greater projects of expenditure, let us review the record

By executive order #7481, four assistant secretaries and one member of the Social Security Board were on October 27, 1936, directed by President Roosevelt "to continue to sponsor cooperation among the health and welfare agencies of the federal government, to continue the work under agreements then in effect, and to study and make recommendations concerning specific aspects of the health and welfare activities of the government, looking toward a more nearly complete coordination of the government in these fields "

This interdepartmental committee was in the same order directed to continue to function through the special technical committees it had already set up and others it might find necessary in order to deal with new problems

The public has before it three documents that have resulted from the interests of the Interdepartmental Committee to Coordinate Health and Welfare Activities, under the following titles

The National Health Survey  
The Report of the Technical Committee on Medical Care  
The National Health Conference

It is to be expected that the next document will be a draft of a project of law introduced February 27 by Senator Wagner to make effective the proposals presented last July 18 to 20 (The Wagner National Health bill, Senate 1620)

*Read before the Medical Society of the County of New York, February 27, 1939*

Now before we accept as final, or even desirable, the very considerable revolution in social and professional endeavor for health which the provisional proposals of the technical and interdepartmental committees offer us as the price of superior health, we may think it wise and fair to look about us and learn from contemporary civil records what is the health status of the nation

Never before in man's history has any people of such mingled races under one government, in such large numbers, so varied in economic and social qualities and opportunities, shared so generously in the application of the sciences of preventive medicine as have the 130,000,000 people of the United States in the year 1938

The gap between what is known and what is done remains wide enough to tempt an increasing army of aggression to war upon ignorance, superstition, indifference, and selfishness, man's four chief and constant enemies to his health. As there seems to be no slowing of the pace of new discoveries, the need of interpreters of these in terms of everyone's life (i.e., family physicians), and of administrators to make our resources effective (i.e., health officers), will continue to the end of the road, which some believe will be the point at which life will be so safe as to be uninteresting, and so long as to be unendurable.

It is no mean or accidental item of history, this dropping of the general death rate, of the maternal mortality, of diphtheria, typhoid fever, tuberculosis, pneumonia and the enteric affections of children to levels heretofore hardly hoped for or calculated in the managed plans of an increasingly regimented society. We are in a sense at the top of an accomplishment that is but the result of a century of rational and determined effort to put knowledge of human biology to work for the people by the joint interests of organized society and its representative government.

No form of government or society or relation of the medical profession to both or either has been developed else

where with a richer result to a nation's health

Such a national good fortune in health as is now ours is not an accidental happening, not merely the lucky marriage of science and society or of medicine and government, but the solid, competent, and calculated result of several generations of painstaking evolution in the use of new knowledge, new institutional and organizational resources, new spirit and ambition for well being in the souls of men

It has been a sound axiom of public health service that it is best when closest and most responsive to the needs of family and neighborhood. There are as many varieties and levels of health as there are of disease and the problems of health like those of sickness are chiefly personal almost wholly family, to a slight degree local and state, and to a minimal degree federal or national in character

The National Health Program, based on inadequate evidence and fallacious deductions from this evidence, is to all intents and purposes a project of federal spending to hurry the distribution of wealth by making federal grants to aid backward and impoverished states to get more nearly the amount and quality of care, for many years available to wealthier advanced and populated states. Instead of responding to the terms of the President's executive order the technical committee and the interdepartmental board have devoted themselves to alarming the country, exaggerating inadequacies ignoring excellences, and proposing remedies beyond the means of money and personnel to accomplish unless with long delay and gradual development.

They propose increase in public health work expansion of hospital facilities, care of the indigent, indemnity for wages lost in sickness compulsory sickness insurance. Faced with this the American Medical Association, the American Hospital Association, the American Public Health Association, and the American Dental Association have passed resolutions expressing reservations in various respects, all disapproving of compulsory

sickness insurance and all approving expansion of public-health work

What are the states doing and what should they do and specifically what should the New York State Medical Society do?

If federal money is spent it will be distributed through state health officers, whether for health or medical care. The state is expected to formulate expression of its own needs and methods of meeting them. The elements essential for such a formulation appear to be the state health department, the state medical society, and state services for the sick. These should agree upon the facts of the situation and then make a report to the public on the needs of preventive and curative medicine, and of individual and administrative medicine in New York, and give conclusions as to specific remedies (a) in public health, (b) care of the indigent and medically indigent, (c) care of the sick among the low-income group by voluntary prepayment, (d) extension of hospital services to an inclusive service, hospital, outpatient, nursing, and home care, (e) hospital construction and equipment needs.

Personally, I believe more is to be expected from building on the voluntary hospital service association base of prepayment plans, if medically controlled, than by separate new governmental schemes. It is essential to retain individual personal practice of medicine, the general public to pay for much of the physician's services to the poor out of tax money. There should be maximum community responsibility and organization, and a minimum use of state and federal grants-in-aid.

The Detroit and Michigan plans seem good to me, and there are others in process of development which will prove sound and useful.

Analysis and results and economics in medical services depend upon retention of personal and collective professional responsibility and initiative, and complete community understanding and participation. The federal government should put its own clumsy incoordinated

services in order, and limit its activities to grants-in-aid of impoverished backward states. There should be an end of exploitation of the residual unserved needs of the poor for political purposes, and a generous recognition by government—federal, state, and local—that official services for sickness and for its prevention have in the past always followed the initiative and humanitarian contributions of the medical profession. There seems to be no reason to believe that there is any particular wisdom or experience at the command of the federal government which does not have its origin in local and state medical and public-health practice and personnel.

If we can hold the gains of the past generation while the federal government experiments with its own structure and functions at the expense of the taxpayers and the stability of local government, we shall be able to continue for the future that development of official and voluntary preventive medicine that has been the particular glory of social progress of the past half-century, based upon the application of the increasing knowledge of human biology for social ends.

The federal government has the doubtful privilege of taking vast sums from the pockets of people in every state, using what it finds expedient for its own payroll purposes, and then returning such parts of the balance as it sees fit to the respective states, which sums of money they could and would use better and at less cost if left to raise and spend their own tax resources for health and sickness care according to their own respective needs, judgment, and methods.

Evidence of neglect in using medical services for the sick and to protect the people's health, as published by the federal government, appears to me to be unconvincing and unsupported by adequate facts.

The assumed conclusion that any substantial portion of those claimed to be at present unable to command medical services for sickness and health, would by the proposed large expenditures be less

often sick, or sick for shorter periods, or would have any significant improvement in their life expectancy or freedom from preventable disease, is illusory and unwarranted.

The ever sheeplike and gullible lay public that still believes in medical and social panaceas has by numerous devices of plausible publicity been persuaded that there can be put at their disposal greatly increased medical benefits if only they demand them. There is neither

spontaneous nor well informed demand, nor likelihood that any great increase in useful application of medical services as proposed in the federal spending project will result from carrying out the so-called "National Health Program," which could not be better assured by using facilities and methods that we are experienced in, and at costs within our means, without involvement in indefinite and accumulative debts to our successors, both patients and physicians

### MECHANICAL HEART BEATS FOR SAN FRANCISCO FAIR VISITORS

The ceaseless motion of the heart—from the cradle to the grave, at the rate of seventy beats to the minute—is dramatically demonstrated to visitors to the 1939 Golden Gate International Exposition on San Francisco Bay. The display is part of the exhibit of the Ciba Pharmaceutical exhibit in the Hall of Science.

Over two billion heart beats—the equivalent of seventy beats per minute over a 65-year period—are indicated on a three-dimensional model heart which stands five feet high in the center of the exhibit. Lights flashing over other models trace the course of the blood flow, the movements of the valves. Supplementary drawings and animated models explain

How the heart pushes forward one gallon of blood per minute when a person is in a resting position, three gallons when standing and thirty gallons when running

How the arteries and veins contract and expand how the pulse is created and how valves function in stopping back flow

How the blood stream provides food to the cells removes waste matter

How the red blood cells supply oxygen to the body and how the white cells provide protection against invading bacteria how blood platelets act in the formation of clots shown on a model enlarged 10 000 times

How the heart itself is supplied by blood to enable it to carry on its pumping functions

The danger of inflammation is emphasized showing how efficiency of the heart is reduced. Popular misconceptions of high blood pressure too are outlined and explained along with heart disease its prevention and treatments for relief

### THE DIFFERENCE

You cannot diagnose thousands of persons as thousands but only as the sum of individual diagnoses you cannot treat the diseases of thousands of persons except as the sum of individual treatments, therefore the public-health function ceases where diagnosis and treatment begin. I would go a little further and say it ceases when education or instruction is in fact construed by the recipient as diagnosis or treatment

—Floyd S Winslow M D

### HOW HE DID IT

The patient who chooses a competent physician and then sticks to him lays the foundation for a type of medical service that shoppers' never receive. In spite of the absence of laboratory aids to diagnostic and therapeutic precision the old time family doctor achieved clinical miracles because he knew his people. He knew their family history, their physical and mental tendencies their idiosyncrasies, their deficiencies and their strong points

—The New York Medical Week

# OTOGENOUS NONSUPPURATIVE ENCEPHALITIS

## A Clinical Entity

MILES ATKINSON, M D , F R C S , New York City

(From Neurosurgical Service, Bellevue Hospital, Service of Dr. Marvin Jones, Manhattan Eye, Ear and Throat Hospital)\*

WHEN localizing cerebral signs appear in the course of an adjacent suppurating focus in the skull, the most likely diagnosis is brain abscess, and that diagnosis usually turns out to be correct. But not always. There are times when the diagnosis has been confidently made and yet exploration finds no abscess. When, nevertheless, the patient recovers, the fact is disconcerting. The reason is to be found in the presence of an area of infection that has not broken down—a localized nonsuppurative encephalitis—and the importance of recognizing this condition as a clinical entity is that unnecessary exploration may be avoided. It is as easy to provoke suppuration in a previously nonsuppurating area, or to convert a localized into a spreading infection, in the brain as anywhere else in the body.

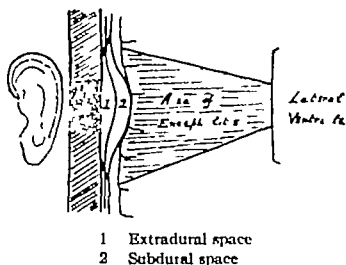
**Incidence**—This is a comparatively unusual condition. In the literature there are only some 25 well-established cases since Oppenheim<sup>1</sup> published the first in 1899, including those published by Voss<sup>2</sup> of Riga, Borries,<sup>3</sup> Adson,<sup>4</sup> and Symonds.<sup>5</sup> Yet it is more common than is generally appreciated, and in any event the importance of a disease process is not to be judged solely by its frequency. I have now seen 15 cases, a number for one observer out of all proportion to the total reported. This can be explained only by cases being misdiagnosed, usually as abscess, for it is impossible to overlook them. The situation, as with abscess,

is most common in the temporal lobe secondary to ear disease (11 cases), and I have recently seen 1 in the cerebellum, only 1 other such having been reported and that by Behlau<sup>6</sup> in 1928. Of the remaining 3, 2 were in the frontal lobe, 1 following a sinusitis and 1 a fracture, and the third was in the parietal lobe following a fracture.

**Pathology**—The pathology of localized nonsuppurative encephalitis is the pathology of localized brain infection in general, and is in essentials the same process as occurs with inflammation in any situation in the body. An infection in the skull spreads beyond the bone to the dura (diagram), which becomes involved either with or without the formation of an extradural abscess. Resulting from this pachymeningitis arises a localized leptomeningitis which may be either serous or adhesive.

**Serous Encephalitis**—If serous (the *méningite de voisinage* of the French writers) there is also some degree of adjacent serous encephalitis, what might be called an "*encéphalite de voisinage*." This serous encephalitis is usually so mild as to show itself only by headache, but occasionally it is more severe and extensive and then gives rise to a characteristic clinical picture not always recognized for what it is. The process is very comparable to the effusion that occurs into a joint in consequence of adjacent infection in the end of a long bone. If the causative condition is not promptly dealt with, the previously uninfected serous encephalitis may become infected (Richardson)<sup>7</sup> and turn into a localized infective encephalitis.

\*My thanks are also due for the opportunity of investigating cases to Drs. John R. Page, James G. Dwyer and A. S. Wilson of the Manhattan Eye, Ear and Throat Hospital.



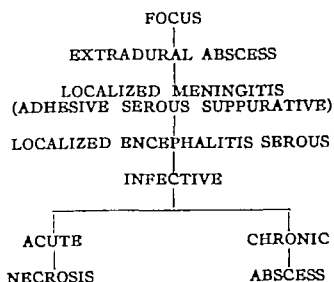
*Infective Encephalitis*—(A) Infection can enter the brain substance by other means than that just described. The more common is by the production of a localized adhesive meningitis whereby meninges and cortex become welded together, providing a path for direct invasion of the brain. By this means an area of encephalitis is produced which in most cases the precursor of an abscess but which occasionally subsides without suppuration. This is the chronic variety, or better the "nonhemorrhagic" to distinguish it from the next.

(B) Less commonly, infection enters the brain by a vascular path and produces an area of hemorrhagic encephalitis that does not suppurate, but not infrequently undergoes necrosis in the center and rapidly extends to and perforates into the ventricle. These cases are often, though wrongly, called acute abscesses. This is the acute or hemorrhagic variety and is caused by an organism of greater virulence and probably of a different type than the former variety. Such cases arise usually in association with an influenza otitis. Microscopically, the brain in these cases shows perivascular hemorrhages, and a lymphocytic infiltration that is duplicated in the spinal fluid picture, a very characteristic finding. Barnes<sup>1</sup> has labeled these cases 'otogenous hemorrhagic encephalitis' which is descriptive but I think a mistake, for it suggests a specific disease whereas these cases are only one part of the large group of adjacent brain inflammation and further are not invariably otogenous. Rich-

ardson in 1934<sup>7</sup> reported 2 cases of localized encephalitis in the frontal lobe, the result of frontal sinusitis, and the second case probably falls into this group.

Unfortunately the process described above is not always subject to ocular proof. The existence of Group A can only be surmised from the evidence of physical signs and results of treatment. Serous encephalitis also can only be deduced from clinical signs and course. Nevertheless it seems fair to assume that the process of inflammation observed in other situations is not materially different in the brain. The analogy between the serous variety and a joint effusion has been pointed out. The varieties of infected encephalitis have their counterpart in infections of the peritonsillar tissues—those that subside without suppurating, those that produce a quinsy and those that spread rapidly and widely through the neck.

The various steps in localized infection of the brain may be made clearer by the following table:



*Diagnosis*—As would be expected the three stages under discussion have many clinical features in common with an abscess a fact that makes differential diagnosis a matter of some difficulty. Thus, all present the signs of a focal cerebral lesion associated with an active or recent suppurative focus in an ear or nasal sinus. Such a picture immediately evokes a diagnosis of brain abscess, the presumption of pus. But an acute in



flammatory peritonsillar swelling does not evoke the presumption of pus—it evokes only the question of it. The affair of diagnosis is to decide if it is there. So it should be in the brain. The reflex must be reconditioned to think in terms of the process, not in terms of the result, particularly since each stage of the process presents a fairly distinct clinical picture.

*Serous Encephalitis*—The outstanding feature of this stage is the onset with a convulsion, after recovery from which the patient is found to have focal cerebral signs. The attack may be single or it may be repeated several times—one of my cases had 6—and after each one the focal signs are more marked. In every case a dural lesion, commonly an extradural abscess, is found, and treatment of this and of the original focus results in permanent disappearance of focal signs within forty-eight hours.

This matter of convulsions and adjacent infection is important. It is customary to divide the course of an abscess of the brain into three stages. It is taught that the stage of onset is often ushered in by a convulsion and, especially in children, that there follows a latent stage, and that some days or weeks later the signs of an abscess begin to appear—the manifest stage. Such a clinical picture, translated into pathologic terms, means that the infection first attains the cortex, which signals the event by one or more convulsions (stage of onset), that gradually infection invades the brain substance (latent stage), and that finally a localized abscess is formed that causes signs (manifest stage). If operation is performed at the first sign of cerebral attack—the convulsion—the later stages may be prevented. Since I have appreciated this train of events, I have operated on 5 cases, 4 in children, in which a convulsion was the first sign of cerebral involvement to appear in association with suppuration in the ear, but was succeeded by no focal signs, cases therefore in which presumably the cerebral edema was too slight to produce them. In each

case I found a dural lesion, and in none was there any further cerebral complication. And I have seen 1, a little girl of 2½ years, in which operation was urged but not performed until very much later when gross signs of a brain abscess were present. A large extradural abscess was present and she died eventually of an extensive loculated temporal abscess.

It is my conviction that all cases with a suppurating lesion in the skull in whom a convulsion supervenes should be explored without delay in the expectation of finding some dural lesion.

*Case*—A girl of 9 had an acute exacerbation of a chronic ear infection on the right with a subperiosteal abscess, for which a simple drainage was performed. Six days later, when the acute stage had subsided, the simple cavity was converted to a radical, a small area of dura being uncovered during the operation. The wound was packed. Three days later the child suddenly started to have left-sided convulsions that continued for an hour and left her with a hemiparesis. The wound was immediately reopened, the dural exposure enlarged, and an area of necrotic dura found beneath the bone. This was excised, releasing a localized collection of turbid fluid from beneath. The wound was very lightly packed. The hemiparesis had gone the next day, and apart from some headache and irritability the child made a straightforward recovery. Six months later she was completely well and without any sign of brain involvement.

*Chronic Infective Encephalitis*—This group offers the greatest difficulties in diagnosis. It is of these cases that Symonds<sup>5</sup> said that “they present no characteristic clinical picture,” while Borries designates them as cases of “abscess without abscess” and says that only by negative exploration can they be differentiated. While admitting that both these statements are true of individual cases and that differential diagnosis may be impossible short of exploration, yet there are certain clinical points that help to decide whether or not suppuration has taken place—which decision is after all the crux of every case of infection with a pyogenic organism. With a nonsuppurating area of encephalitis, head

ache is apt to be severe and continuous, eyegrounds commonly show slight changes, and fever is present. But the sign of greatest value in differential diagnosis is the findings in the spinal fluid, where an increase in cells numbered in hundreds is seen, while with an abscess they are numbered in tens, and where, moreover, mainly polymorphonuclears are found, as against the common large mononuclear finding with abscess. Finally, there is in encephalitis an association syndrome—clinical signs and spinal fluid signs rise and fall together—while when suppuration and localization is occurring there is an increase of physical signs with a decrease in spinal fluid signs, the dissociation syndrome emphasized by Borries.

*Case*—A boy of 13 was operated on for an acute mastoid on the right side. Six days later he complained of severe headache but had no neurologic signs. Temperature 97 F. Pulse 92. Spinal tap showed 6 cells, 2 polymorphonuclears. Five days later the boy had gradually been getting worse, was drowsy and had vague left-sided signs. Spinal fluid showed 22 cells, 18 polymorphonuclears. Temperature 99.2 F. pulse 54. He was thought to have an abscess, was explored and no abscess was found. A wide decompression was done. Next day his headache had improved, but the neurologic signs persisted. Temperature 102 F. pulse 100. Spinal fluid gave cells 182 polymorphonuclears, 86 per cent. Clinical signs and spinal fluid increased during the next two days, and a second exploration was negative. From then on signs and spinal fluid picture steadily improved and he ultimately made a complete recovery. This was in 1927 before the significance of various signs had been appreciated. The spinal fluid picture would now supply the diagnosis.

*Acute Infective Encephalitis*—This variety gives as characteristic a clinical picture as does the serous variety, so characteristic and so different from the picture of an abscess that it is surprising that the two should ever be confused. Thus, the condition arises usually in the course of acute infection rather than chronic, there is mental excitement, even noisy delirium very different from the drowsiness or stupor of an abscess

patient, the clinical signs are widespread from an early stage, fever may be high with a corresponding pulse, and the patient becomes very rapidly and gravely ill, there is often papilledema, and the spinal fluid shows an increased cell count in the hundreds, the greater proportion lymphocytes, which suggests a nonpyogenic organism. The mortality is high—4 of my 7 cases died.

*Case*—A woman of 57 was operated on for an acute mastoid on the left side following influenza. Five days later she complained of headache, was restless and occasionally somewhat disoriented, but she was extremely ill. There were no neurologic signs. Two days later the lateral sinus had to be occluded. Five days after this restlessness became extreme, she had to be restrained, was completely disoriented, developed a naming aphasia, a right hemiparesis and bilateral papilledema, with 100 cells in spinal fluid, 86 per cent lymphocytes. She was treated on the lines described below and after a stormy passage made ultimately a complete recovery.

*Treatment*—This can be summed up very briefly. The most important consideration is a negative one, that exploration should be avoided unless a diagnosis can be made by no other means. To incise an area of inflammation before suppuration has occurred is the surest way to provoke it and to produce spread of infection. But if brain exploration is taboo, exploration of the focus of infection and of the neighboring dura is incumbent, with appropriate surgical treatment of any lesion found. At the same time a local decompression by free removal of bone should be made.

Other positive measures are such as may also be used for a tumor with increased pressure: hypertonic solutions, limitation of fluid intake, catharsis, and lumbar punctures. While all possible measures for relieving pressure must be taken in the acute cases, the matter is less urgent in the chronic, and in them the exhibition of hypertonic solutions is not to be recommended. Their use may induce a false sense of security, and the

improvement in symptoms, occurring as an abscess localizes, may be ascribed wrongly to the good effects of the sucrose

*Summary*—(1) The results of the spread of infection from an adjacent focus to the brain tissue have been discussed

(2) Three varieties of localized non-suppurative encephalitis have been described, with their characteristic clinical features

(3) The importance of avoiding exploration if at all possible has been stressed

123 East 61st Street

### References

- 1 Oppenheim, H Berl Klin Wchnschr 37 201 (March 5) 1900
- 2 Voss, F Ztschr f Ohrenh 41 223 (1902)
- 3 Borries, G V Th Rev de laryng 53 49 (Jan) 1932
- 4 Adson A W Surg Clinics N Am 4 503 (Apr) 1924
- 5 Symonds, C P J Laryng 42 446 (July) 1927
- 6 Behlau C Ztschr f Hals-Nasen u Ohrenh 21 26 (1928)
- 7 Richardson, D Y Brit. M J 2 1101 (Dec 15) 1934

### Discussion

Dr Albert B Siewers, *Syracuse*—I feel that Dr Atkinson is to be commended for his clear presentation of such a difficult subject I too should like to emphasize a point that he himself stressed—that is, that exploration should be avoided unless absolutely indicated, to which I might add that suspicion of brain infection or

abscess formation calls for the most drastic treatment in all medicine, namely, masterly inactivity I have never seen anything but disastrous results from the too early exploration of an abscess and I can safely say too that I have seen excellent results in brain abscess when the surgeon was a procrastinator and put off interfering until everyone else was nearly in despair Certainly there are many cases that look like abscess formation but do not go on to an abscess formation.

On January 22 of this year, I saw a 17 year old girl in semicoma The pupils were small, disk margins blurred, arteris of fundi were shiny, and the veins engorged There was a facial weakness and a positive Babinski, with the depression of all deep reflexes These symptoms came on after a week of middle-ear disease, during which the mastoid had been invaded, and she complained increasingly of headache The spinal fluid was cloudy and had 1,400 cells Radical mastoid was done and the dura exposed to the size of half a dollar, apparently under pressure. The wound was drained with iodoform gauze and left open Lumbar puncture was repeated daily for five days with a gradual decrease in cells concomitant with disappearance of neurologic signs Culture of the spinal fluid yielded no growth and the cells were 80 per cent lymphocytes I do not believe that this case could be classed with the usual class of mastoid with meningitis, there were definite signs of encephalitis and we have the association syndrome which Dr Atkinson pointed out, that is, clinical signs and spinal fluid signs rose and fell together in nonsuppurative encephalitis

### EASY WAYS TO MAKE ILLNESS MORE ENDURABLE

Raising a patient's bed to the height of a standard hospital bed—27 inches—greatly lessens the strain on whatever member of his family may be acting as nurse, Elizabeth W Hard, R N, Greenville, N C, advises in *Hygeia*

This is one of her suggestions for making convalescence from a long illness as comfortable as possible for both patient and family

"The bed can be elevated with bricks or wooden blocks placed under the legs," Miss Hard says This not only helps the nurse but generally it is a better height for looking out of windows and in summer it is cooler

If the bedrooms are not pleasant, the author advises that the patient be placed in the dining room, living room, or even the kitchen

"A new outlook is highly exciting after months of seeing the world from one side," Miss Hard observes "An adjoining room, adjacent porch, or even a convenient hallway affords great relief and change if the bed can be occasionally shifted or the patient moved"

A table reaching across the bed, with a center panel to be used as a book rest, is a great convenience "A wooden one can easily be made, with the advantage that a narrow ledge can be added which prevents toys from falling off or books from being pushed over the edge," says Miss Hard "It can be pushed to the foot of the bed and be out of the way, yet easily available when not in use If the patient is allowed to sit up to eat, it can be used at mealtime"

## TUMORS OF THE MEDIASTINUM

N CHANDLER FOOT, M D, New York City

(From the Department of Surgical Pathology New York Hospital and Cornell University Medical College)

It is proposed to present in this paper the salient features of the tumors of the mediastinum, it is not its purpose to set these forth too meticulously or too technically, but rather to attempt to sketch an outline that will be of use to the diagnostician when confronted by new growths of this region. When considering these tumors, one should take them up from the standpoint of the various anatomic elements composing the area from which they take origin. We have but one organ normally resident in the mediastinum if we except such adnexa as the trachea, esophagus, great vessels and the like, this is the thymus. The thyroid may stray there, as well as the parathyroids and, in addition, we have important groups of lymph nodes. The nervous apparatus in the mediastinum, like the tubular structures just mentioned, is either in the form of nerves or of ganglia extensions of another system.

**Thymus**—This organ presents an interesting group of tumors<sup>1</sup> that arise at its site and usually involve the neighboring structures, particularly the pericardium and great vessels. Any stony-hard tumor of the anterior mediastinum that surrounds the great vessels and spreads over the pericardium should at once arouse suspicion of thymic origin. There are nonmalignant tumors that may be composed largely of fat, in which more or less disarranged and distorted thymic tissue is distributed in the form of irregular islands. There are rare forms composed of small round cells with occasional Hassall's bodies, often very rudimentary scattered among them. These nonmalignant tumors may grow to very large dimensions and about 50 per cent of the former type may be associated with symptoms of myasthenia gravis.

We had such a tumor at the New York Hospital that weighed over 2,200 Gm occupied all of the left chest, and extended well into the right, involving the great vessels as well. It was successfully removed and the patient, a boy of 13, has made a signal recovery. This case was unassociated with myasthenia gravis. Occasionally these tumors may show cystic changes.

The malignant tumors may be divided into seven general groups: lymphocytic, lymphoblastic, thymic reticular, perithelial, granulomatous (so closely allied to Hodgkin's granuloma that it probably represents this condition in the thymus), epithelial or carcinomatous, and the teratoid type that combines the epithelial and lymphoid elements in one neoplasm.

As a general rule the sarcomas are seen in relatively young subjects, the epithelial in those of cancer age, while the teratoid occur chiefly in children. All of them are very malignant so far as local destruction and invasion is concerned. Although they rarely metastasize to organs at a distance, such metastases have been described. They present almost insuperable obstacles to surgical removal on account of invasion of vital organs and they are therefore almost invariably fatal. Many seem to be radiosensitive, but it is difficult to cover their extensions. While the primary tumor may be reduced to a mass of inert fibrous tissue the metastatic foci in the lungs may flourish and ultimately kill the patient. The lymphosarcomatous type has been known to cause lymphoid leukemia.

**Thyroid and Parathyroid**—Excluding intrathoracic goiters, which are often of the adenomatous variety, tumors of the thyroid and parathyroid may be situated

in the upper mediastinum, having become incarcerated there. One might expect to find fetal adenomas, embryonal adenomas, or malignant transformations of these. There are a few cases recorded of fairly large adenomas of the parathyroid that have become incarcerated in the mediastinum, one such was extensively studied and explored with negative results until a Boston surgeon located the growth and removed it. The microscopic features of these two groups of tumors may be omitted here, suffice it to say that any tumor usually found in the thyroid or parathyroids will have the same characteristics when it occurs in the mediastinum. Symptoms of thyroid or parathyroid dyscrasia usually accompany them and give the diagnostician a clue.

*Lymph Nodes*—The mediastinal nodes may be the site of any of the lymphoid tumors, such as nodular lymphosarcoma, large or small celled lymphosarcoma, and Hodgkin's granuloma. We need not expand this theme any further.

*Bone*—Tumors may grow from the bony thorax into any part of the mediastinum. They may be anything from mere exostoses to very malignant osteogenic sarcomas and, as they do not differ from these as seen elsewhere in the skeleton, they may be dismissed with mention only.

*Cartilage*—Far more common are the cartilaginous tumors that arise in the vicinity of the mediastinum. They may be nonmalignant or malignant and here, again, do not differ materially from those found elsewhere in the body, except that one notices that comparatively innocent-looking chondromas, in this situation, may prove to be malignant on further acquaintance and actually metastasize and produce daughter growths in the lung that may retain the nonmalignant microscopic appearance of the primary growth. For this reason we have learned to suspect any cartilaginous tumor of the thorax. From the histologic standpoint, they may vary from extremely cellular structures composed of irregular

and atypical cells with little cartilaginous matrix, to very well-differentiated chondromas with much hyaline chondromucin and rather well-formed cartilage cells. Should the latter show marked irregularity in size and shape and a tendency to share wide lacunas with similar cells (instead of lying singly therein) it is well to give a guarded prognosis. Mitotic figures do not help much in the diagnosis, for they are seldom found.

*Fibroma*—This tumor may, of course, be found in the thorax and may attain considerable size. A solid tumor, it causes symptoms of compression and casts a rather uniform, dense shadow on x-ray examination. It differs not at all from fibromas in other situations.

*Desmoid*—Very large fibrous tumors with a matrix-like tendon (which gives these growths their name) and of an extremely wooden consistency, may occur here. They are slowly and progressively expansile and may attain enormous size, one of them in the Thoracic Tumor Registry weighed over 4 Kg. They differ from ordinary fibromas insofar as they tend to infiltrate muscle and bone, destroying these by pressure, much as an aneurysm does, but they do not metastasize. They should not be confused with the "desmoid" of the rectus abdominous sheath, which is a low-grade myxosarcoma and histologically different from the very acellular growth we are discussing. They can be successfully removed, but the surgical risks inherent in such an operation are great, if not completely extirpated, recurrence is likely.

*Myxomas*—Growths originating in mucoid tissue, resembling Wharton's jelly in the umbilical cord, are quite common in the mediastinum. They are gelatinous and exude a viscid, glary fluid on section, as they are relatively soft they are much less likely to give early symptoms than are their firmer and more compressing relatives, the fibromas and desmoids. They are often associated with lipomas, in the form of myxolipomas, probably owing to the fact that the two tissues are closely related in the embryo.

*Fibrosarcoma and Myxosarcoma*—

These are sometimes found in the mediastinum and are not unlike such tumors in any other part of the body, carrying the same invariably bad prognosis. They are not particularly radiosensitive either, as fibrous tissue is theoretically radio resistant.

*Lipoma*—Simple lipomas are frequently seen in the mediastinum,<sup>3</sup> growing out into one or other chest cavity and ultimately compressing the lung. They are apt to show late symptoms as they are soft and themselves compressible, not exerting much pressure on the lung until they have attained considerable size. They have been reported as weighing as much as 4 Kg. As noted, they may show an admixture of myxomatous tissue, we had one such tumor that filled an entire chest cavity and nevertheless caused remarkably little discomfort to the patient, considering its great bulk. Roentgenograms of such tumors show a peripheral fading-out of the shadow that forms a halo about it and is quite characteristic. Microscopically they can scarcely be told from ordinary adipose tissue, aside from the occasional irregularity of the size of the fat vesicles and in those cases where there is mucoid tissue as well.

*Liposarcoma*—Ewing recognizes two types of these tumors, the embryonal, or lipomyxomatous type, and the adult type. The former is characterized by being very firm and brownish yellow, under the microscope it is composed of a rather uninteresting adipose matrix in which are sparsely distributed very bizarre giant cells resembling spiders and having large, multiple hyperchromatic nuclei. Smaller mononuclear and fusiform cells, like those of a fibrosarcoma, are dotted among these. This is a fascial tumor primarily and it is not found in the mediastinum, although as myxolipomas may occur there it would not be strange if one should be encountered. The second group, however, has been relatively often seen in our laboratory. Grossly, these growths are yellow to orange in color, much like "xanthomas" and the section

surface is dull and opaque. They may attain considerable size—one of ours filled the upper half of the right chest. Microscopically they usually have very little resemblance to adipose tissue and one would not suspect their origin from their appearance. They are composed of masses of polygonal cells growing in plugs, like epithelial islands. Occasionally there are groups of typical "mulberry cells," like embryonal fat cells, but they may be totally lacking. One finds tumors that represent all the transitions from this fetal fatty tissue, through the mulberry phase, to relatively mature adipose cells, or very atypical sarcomatous cells. There are two points that indicate fatty origin in the more solid and obscure of these tumors: their histology resembles that of the "fat organs" of Flemming (found in the axilla and groin of the relatively mature fetus) and, most importantly, the cells are all peppered with fine lipid granules that stain positively with fat stains. It is almost futile to make a positive diagnosis of liposarcoma without having done a confirmatory fat stain.

*Xanthoma*—A few cases of this tumor have been reported as occurring in the mediastinum. Heuer cited 2 in his article in *Nelson's Looseleaf Surgery*<sup>4</sup>, 4 or 5 more have since been reported. This growth raises problems in pathology: is it, or is it not a true tumor? Like many disputed subjects, there are times when it seems to be neoplastic and others when it appears to be a granuloma, an inflammatory collection of fat phagocytes filled with cholesterol. Gruenfeld and Seelig<sup>5</sup> have discussed this at length. In the latter instance the patient may be found to show hypercholesterolemia. Macroscopically these tumors are well encapsulated, rather waxy and bright orange-yellow in color, microscopically they may be wholly or in part composed of foamy cells in a matrix of variably typical fibroblasts. They may take on a sarcomatous appearance and exhibit many foreign body giant cells as well, with a yellowish brown pigment scattered

through the tumor, but these are not true sarcomas and may merely represent a different degree of development from that of the ordinary xanthoma. The whole question parallels that of the giant-cell tumor of bone rather closely. In the mediastinum they have all of them been of the simpler, foam-cell type of xanthoma and the prognosis after surgical removal has been good.

*Myomas and Myosarcomas*—In the thorax one might theoretically expect tumors to arise from misplaced rests of either smooth or striated muscle, or from cardiac muscle. They might also originate in muscles resident in the neighborhood of the mediastinum. Generally speaking, nonmalignant muscular tumors of the mediastinum are unheard of. Rhabdomyosarcoma of either striated or cardiac muscle has been described, the latter by Wolbach.<sup>6</sup> Such tumor might also arise in teratomas of the mediastinum. At all events, they are extremely rare.

*Vascular Tumors*—Hemangiomas and hemangiosarcomas, common enough in the abdominal cavity, are very rarely met with in the mediastinum. This is also true of the lymphangiomas.

*Tumors of Nervous Origin*—One might think that these would also be rare visitors to the region under discussion, but this is not the case. They arise from nerve trunks, ganglia, and from scattered fetal rests in the mediastinum, particularly the posterior mediastinum. Nerve cells may migrate from the ganglionic crest in embryonal life and give rise to tumors that range through the gamut of possibilities in nerve-tissue development. Neuroepitheliomas,<sup>7</sup> malignant tumors of primitive neuroepithelium, have been described, ganglioneuromas<sup>8</sup> and malignant forms of these are not infrequently encountered, although the latter are rare, the former are not uncommon. They comprise a certain percentage of the "hour-glass tumors"<sup>9</sup> that consist of two enlargements, one within the spinal canal and the other in the mediastinum, the two connected by a narrow isthmus that lies in the root foramen. Another

type of hour-glass tumor is the nerve-sheath tumor known as neurilemmoma or Schwannoma,<sup>9</sup> grossly much like the ganglioneuroma, but microscopically composed of Schwann cells that form peculiar and typical "Verocay bodies" with palisaded nuclei that are pathognomonic and readily recognized.

From the fibrous tissue of the nerve sheaths one may have neurogenic fibromas or fibrosarcomas developing. We have had one of these that grew rather slowly and ultimately metastasized widely and fatally. Tumors of the sympathetic nervous system may show the characteristics of sympathicoblastomas, a group that is becoming more and more subdivided into component groups, but most of these are metastatic from the suprarenals. The pigmented chromaffin cells of the sympathetic system, which form so-called "paragangliomas," rarely do so in the mediastinum, but there is accumulating evidence that a rather recently recognized, almost invariably nonmalignant tumor of the larger bronchi may belong in this category. Hamperl,<sup>10</sup> of Berlin, has gone so far as to say that it does. These tumors are really parabronchial and break into the lumen from recesses in the wall. In their fresh state, a membrane of bronchial mucosa can usually be demonstrated separating the tumor from the lumen.

*Teratomas*—For some reason, the chest is a frequent site of teratomatous growths<sup>11</sup> that may range from simple epidermoid cysts, containing sebaceous material and hair with some admixture of fluid, to very diversely developed teratomas that contain bone, cartilage, and a variety of other tissues. They may form solid tumors that are readily recognized on x-ray examination on account of the bone they contain. Unfortunately, many of these tumors fall into the class best known as "embryomas," or undifferentiated, primitive, and therefore malignant tumors that probably represent the malignant form of the teratoma. Under the microscope they may show little tissue that can be identified with

any adult structure, exhibiting many mitotic figures and constituting undeniably malignant and destructive growths. Occasionally one sees such a tumor, part of which has developed into recognizable bone, nervous tissue, epithelium, etc., but another part of which is composed of undifferentiated fusiform cells that resemble embryonal mesoderm, or sarcoma, and constitute the bulk of the tumor. These cells are just as malignant as though unassociated with well-differentiated tissue. Several of these have been operated upon, or explored in our department of surgery during the past five years.

**Metastatic Growths**—Naturally, any malignant tumor may invade the mediastinum from a point without its strict confines, such as a carcinoma of the bronchus, esophagus, etc. Metastases from points farther away also occur, but these are all mentioned in passing, as they are not primary in the region we are discussing.

### Remarks

In closing, it would be well to point out the importance of employing varied technic in investigating tumors of this region. Mere hematoxylin and eosin will not solve all the problems that confront one here, although they serve the experienced pathologist surprisingly well. The neurogenic tumors, for instance, will not show up in their true light unless other technics be used. Silver impregnations are invaluable in the investigation of the tumors of nervous origin. One should have abundant material and then fix thin blocks in a number of ways, and stain or impregnate by a variety of methods, if one would bring these troublesome tumors into their proper categories.

### References

A useful list of references will be found in *Nelson's Looseleaf Surgery* under the section on Thoracic Surgery by Heuer Andrus and Taylor New York, 1928.

1. Thymoma:  
Foot, N. C.: *Am. J. Path.* 2: 33 (1926).  
Andrus, W. de W. and Foot, N. C.: *J. Thoracic Surg.* 6: 648 (1937).
2. Fibroma:  
Garré: *Deutsche med. Wchnschr.* 44: 517 (1918).

3. Lipoma  
Swing J.: *Trans. Assoc. Am. Phys.* 20: 66 (1905).
4. Xanthoma  
Heuer J. Nelson's *Looseleaf Surgery* q.v.
5. Gruenfeld G. and Seelig, M. G. *Arch. Path.* 17: 540 (1934).
6. Rhabdomyosarcoma  
Wolbach S. B. *J. Med. Research* 16: 495.
7. Neuroepithelioma  
Andrus, W. de W. *Zentralbl. f. allg. Path. u. path. Anat.* 54: 105 (1932).  
Andrus, W. de W. *J. Thoracic Surg.* 6: 381 (1937).
8. Ganglioneuroma  
Stout A. P. *J. A. M. A.* 82: 1770 (1924).
9. Hour glass tumors  
Herbinger München med. Wchnschr. 61: 568 (1914).
10. Stout A. P. *J. A. M. A.* 82: 1770 (1924).
11. Bronchial Argematin Tumors  
Hamperl H. *Virchows Arch. f. path. Anat.* 300: 46 (1937).
12. Teratomas  
Hertzer A. B. *Am. J. Med. Sc.* 152: 165 (1916).  
Smith L. W. and Stone J. S. *Ann. Surg.* 79: 687 (1924).

### Discussion

Dr Arthur Purdy Stout, *New York City*—The review of the various mediastinal tumors that has just been presented by Dr Foot covers such a variety of lesions that it will be impossible to discuss all of them although each tumor group tempts one to elaborate upon his necessarily brief summary. Therefore only certain features will be touched upon.

It might be well to enlarge upon the statement that hemangiomas and hemangiosarcomas are very rarely found in the mediastinum. This must certainly be true, for I was unable to find records of a single case. There are at least 10 cases in which either the lung the pleura, or both are involved. Hall's lung tumor was malignant and metastasized while several of the other cases had multiple tumors both in the lung and elsewhere.

In this connection lymphatic cysts and lymphangiomas should be mentioned. These usually appear in the upper anterior part of the mediastinum. The common form is the downward extension of a cystic hygroma from the neck behind the clavicle into the upper mediastinum. But they may also appear as entirely mediastinal tumors without any neck or axillary involvement. Cases of tumors in children appearing in the anterior mediastinum have recently been reported by Michaelis. Skinner and Hobbs have reported them almost filling the lower half of the right chest. Elgler has suggested that they are perhaps of branchomesodermal origin and have been drawn down into the thorax by the descent of the heart.

Dr Foot dismisses the mediastinal bony tumors of the thoracic cage with the statement that they do not differ from those seen elsewhere in the skeleton. This is perhaps true but it



seems worth while to emphasize the fact that sometimes they grow to a very large size without seriously discommoding the patient. The largest pure osteoma that I have ever encountered grew from the inner surface of the eighth and ninth ribs, forming a smooth, ovate tumor measuring 20 by 14 cm and weighing 3,100 Gm. It compressed the lung and displaced the heart to the right. The patient was a male, twenty-three years old, and the growth was first noticed at the age of sixteen. When examined, it was uniformly solid and was composed of well differentiated bone trabeculas without any associated cartilage. The patient died after excision of the tumor and four ribs. Rather unfortunately the case was reported by Dr Auchincloss in 1934 as an osteochondroma on the basis of the x-ray diagnosis, without waiting for the completion of the pathologic examination. There was also present in the left lower lobe a small, rounded osteoma of the lung. We thought it unlikely that this was a metastasis, although of course it may have been one as Dr Foot points out in connection with chondromas of the chest wall associated with intrapulmonary chondromas.

I am not sure from his statements about smooth muscle tumors in the mediastinum whether or not Dr Foot is acquainted with any cases. Kaplan has reported a polypoid leiomyoma attached to the origin of the left pulmonary vein in a four-year-old child, and Kudlich and Schuh have reported a myoplastic sarcoma attached to the wall of the pulmonary artery at the root of the left lung in a twenty-seven-year-old man with metastases in the left adrenal and the right ventricle of the heart. In addition to these, a smooth muscle tumor was found in the pleura of an eighty-three-year-old woman by Catron. I have seen one in the wall of the esophagus, where they are much less infrequent.

Dr Foot steps aside from the mediastinum for a moment to pay his respects to that tumor of mystery, the so-called bronchial adenoma. I am interested to learn that apparently he looks with favor upon Hamperl's suggestion that it may be a chromaffin-cell tumor. There was a time, I think, when he believed that they were in the nature of carcinoids because he succeeded in staining argentaffin granules in the cells of one tumor. My experience with these tumors is limited to 14 cases, and so far their genesis has baffled me. They seem to me quite different from any tumors with which I am acquainted which arise from the mucosal epithelium, its glands, or its ducts. They are quite different from any of the special forms of mucous and salivary gland tumors, of which I have seen 1

example arising in a bronchus. I have never succeeded in blackening any granules within the cells with silver. They do not appear to me to be lipid-containing, although I have not had a chance to confirm this point. However, the general arrangement and appearance of the cell strands more nearly resemble tumors of some of the glands of internal secretion than anything else, and I shall not be surprised if it can be demonstrated some day that they belong in this category. Their biologic behavior is well known, chiefly through the observations of the Mt Sinai group, who have studied more of them than anyone else. Kramer and Som have pointed out that they may reach the size of a grapefruit without actual invasion. I cannot agree with this statement. In our group of cases there are several that have penetrated the wall of the bronchus and impinged upon the lung. This occurs by a process of microscopic invasion that is so slow and restricted and is accompanied by such a degree of fibrosis that the growth all ways appears to be encapsulated, even when it reaches the dimensions of 6 by 10 cm, as occurred in 1 of our cases. Examination of the confines of our tumors always showed infiltrative rather than expansile growth. I quite agree, however, that the tumors are otherwise benign and no case has been known to metastasize.

I want to endorse what Dr Foot has said about the importance of proper fixation, some versatility in histologic technic, and the examination of many parts of any given specimen. These are essential if we are to progress in tumor investigation.

In conclusion I should like to thank Dr Foot for his well-considered presentation and especially for asking me to discuss it, for this has stimulated me to review my acquaintance with a most interesting field of tumor pathology.

## Bibliography

- 1 Auchincloss, H. *Ann Surg* 100 399-400 (1934)
- 2 Beal, J. B., and Gray, E. D. *Brit. J. Radiol.* 1 (N S) 151-155 (1928)
- 3 Catron, L. *Arch. Path.* 11 847 (1931)
- 4 Franco, E. B. *Sopra un rarissimo voluminoso leiomoma del polmone* *Tumori* 15 27-42 (1929)
- 5 Hall, E. M. *Am J. Path.* 11 343 (1935)
- 6 Kaplan, S. *Rev. franç. de pédiat.* 10 664-669 (1934)
- 7 Kramer, R., and Som, M. L. *Ann. Otol. Rhin. & Laryng.* 44 861-878 (1935)
- 8 Kudlich, H., and Schuh, W. *Virchow's Arch.* 294 113-119 (1934)
- 9 Lemon, W. S. *M. Clin. N. Am.* 15 17 (1931)
- 10 Martens, G. *Frankfurt Ztschr. f. Path.* 44 272-276 (1932)
- 11 Michaelis, O. *Deutsche Ztschr. f. Chir.* 242 250-256 (1934)
- 12 Overholt, R. H. *J. Thoracic Surg.* 4 196-210 (1934)
- 13 Skinner, G. F., and Hobbs, M. E. *J. Thorac. Surg.* 6 98 (1936)
- 14 Taylor, A. C., and Moore, E. *Am J. Cancer* 19 31 (1933)

# INFLUENCE OF INDUSTRIAL MEDICAL WORK ON GENERAL HEALTH AND MEDICAL SCIENCE

R. R. SAYERS, M D , and ROY R. JONES, M D , Washington, D C

(From the United States Public Health Service)

THE VALUE of the industrial hygiene program in the prevention of specific occupational diseases is readily appreciated, but frequently we fail to realize the possible benefits to the general health of the worker and his family that may follow our efforts in this field.

Hygiene is defined as "that branch of medical science which relates to the preservation and improvement of health, both in individuals and in the community." A comprehensive program in industrial hygiene includes more than plans for the elimination and control of specific occupational disease hazards. It makes use of all measures that have to do with the preservation and improvement of the worker's health. Industrial hygiene occupies a definite place in well balanced public-health departments—local, state, and federal. Like all other divisions of the public-health program, to be effective it needs to be a cooperative and not a competitive service. As in other public health activities, the work of the medical personnel must be supplemented by that of the nurse, dentist, statistician, and engineer. The benefits upon the general health in the community resulting from a well-directed program in industrial hygiene are not only dependent upon the assistance rendered by these immediate groups, but also upon the correlation of such a program with the work of other health and welfare agencies in the community—particularly that of the family physician.

The practice of public health may be said to be the application of preventive and curative methods of treatment upon groups as differentiated from the personal or private practice of prevention and cure

upon the individual case. For convenience, public-health methods may be classified as educational, administrative, and professional. From the definition and classification given, it is obvious that in a sense all legal practitioners of medicine may be considered as public health officials, and the services they render as such in the field of industrial hygiene are largely determined by the opportunities they have of contacting industrial groups, and by the extent to which they cooperate with the duly designated public health agencies.

According to the U S Census Report for 1930, approximately 49,000,000, or more than one third of our population, were gainfully employed. About 15,000,000 of this group were employed in the manufacturing, mechanical, and mineral industries. In the past more attention has been given by those in industrial hygiene to the study and elimination of obvious occupational-disease hazards associated with employment in this latter group of industries.

The past few decades have seen marked changes in medical practice as applied to industrial groups. Formerly, industrial medicine was chiefly concerned with the treatment of traumatic injuries, and the selection of applicants for employment. The adoption of compensation laws providing benefits for accidental injuries was a deciding factor in the establishment of such services. The relationship of health to accidents gradually became apparent, and the more progressive employers have provided more complete health supervision. Thus, enactment of laws compensating for occupational disease have made medical supervision more impor-

*Read by invitation at the Annual Meeting of the Medical Society of the State of New York  
New York City May 12 1938*

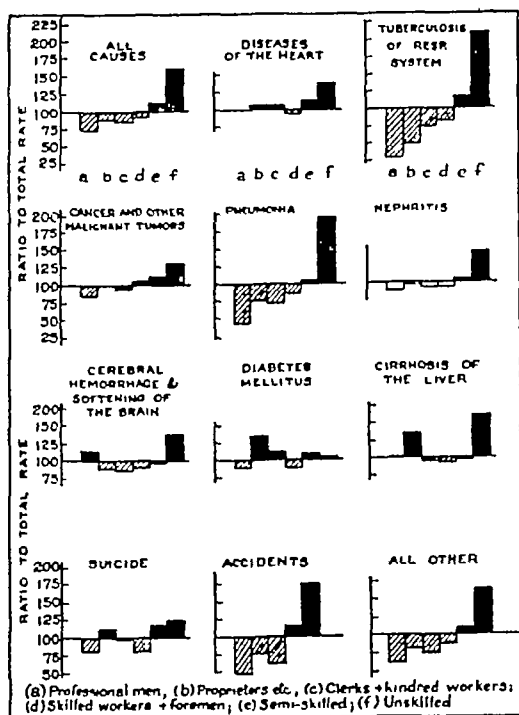


FIG 1 Relative mortality in different occupational classes, by cause, 10 states, 1930

tant There is probably an even greater relationship between general health and occupational disease than between health and accidents

As a result, today many establishments employing large numbers of workers commonly provide medical supervision. However, approximately 50 per cent of all workers in manufacturing establishments are found in plants employing less than 250 workers. There is serious need for the development of an industrial-hygiene program that will serve this group. The success of health activities in the larger establishments will be directly benefited by such efforts.

In the main, occupational diseases are chronic, resulting from months or years of exposure. Many workers in the larger establishments gain their training and experience in smaller plants, and unless they have adequate health supervision during periods of such employment they will come to work in the larger establishments more susceptible to, if not already suffering from the effects of, harmful occupational exposure.

It has been shown that the incidence of pneumonia, tuberculosis, and some of the so-called degenerative diseases are greater among some labor groups than among the general population. This, it is acknowledged, is due to social and economic conditions as well as conditions of industrial environment. Corrective measures to be effective must include specific attack upon these three fronts. The following table indicates the difference in mortality rates by various occupational classes.<sup>1</sup>

Fig 1 shows graphically the relative mortality in different occupational groups, by cause. It is apparent that we have here in some occupational groups, an ex-

TABLE 1—ADJUSTED\* MORTALITY RATES MALES 15-64 YEARS OF AGE, IN 10 STATES † 1930, ACCORDING TO OCCUPATIONAL CLASS

| Occupational Group                   | Rate per 1 000 | Population | Deaths  |
|--------------------------------------|----------------|------------|---------|
| Professional men                     | 7.0            | 636,608    | 4,428   |
| Proprietors, managers, and officials | 7.4            | 1,426,425  | 12,440  |
| Clerks and kindred workers           | 7.4            | 2,210,477  | 13,793  |
| Skilled workers and foremen          | 8.1            | 2,725,992  | 23,282  |
| Semiskilled workers                  | 9.9            | 2,543,762  | 23,281  |
| Unskilled workers                    | 13.1           | 2,455,778  | 32,248  |
| All gainfully occupied males         | 8.7            | 14,013,367 | 121,951 |
| Agricultural workers                 | 6.2            | 2,008,830  | 13,479  |

\* Adjusted to distribution of all gainfully occupied males in three age groups, 15-24, 25-44, 45-64.

† Alabama, Connecticut, Illinois, Kansas, Massachusetts, Minnesota, New Jersey, New York, Ohio and Wisconsin.

cessive mortality from certain diseases which we should be able to greatly reduce through the application of public-health measures. This approach is logical and in keeping with established public-health procedure. In the control of communicable diseases we plan our educational and administrative program for the age group most seriously affected, through the public-school system and for the mothers of these children through their women's clubs and parent-teacher associations. In our efforts to reduce mortality of the mother and newborn, we carry our services to that group. Those employed in industry constitute a well-defined unit in our population and one through which much should be accomplished by cooperative public-health efforts.

Numerous investigations may be cited to show the excessive rates of tuberculosis and pneumonia, in certain occupational groups, and the effects of such rates

TABLE 2.—DEATHS AND DEATH RATES FROM TUBERCULOSIS IN THE TOWNS A B C AND H

| Year  | Town A<br>Esti-<br>mated<br>popula-<br>tion | Deaths<br>from<br>tuber-<br>culosis | Death<br>rate<br>per<br>1,000 | Town B<br>Esti-<br>mated<br>popula-<br>tion | Deaths<br>from<br>tuber-<br>culosis | Death<br>rate<br>per<br>1,000 | Town C<br>Esti-<br>mated<br>popula-<br>tion | Deaths<br>from<br>tuber-<br>culosis | Death<br>rate<br>per<br>1,000 | Towns A B C<br>Deaths<br>from<br>tuber-<br>culosis | Death<br>rate<br>per<br>1,000 | Esti-<br>mated<br>popula-<br>tion | Town H<br>Deaths<br>from<br>tuber-<br>culosis | Death<br>rate<br>per<br>1,000 |
|-------|---|-------------------------------------|-------------------------------|---|-------------------------------------|-------------------------------|---|-------------------------------------|-------------------------------|--|-------------------------------|-----------------------------------|---|-------------------------------|
| 1900  | 1,302                                       | 5                                   | 3.8                           | 1,218                                       | 2                                   | 1.6                           | 2,678                                       | 7                                   | 2.6                           | 14   | 2.7                           | 3,424                             | 10  | 2.9                           |
| 1901  | 1,303                                       | 2                                   | 1.5                           | 1,228                                       |                                     |                               | 2,683                                       | 1                                   | .3                            | 8  | .6                            | 3,294                             | 5   | 1.5                           |
| 1902  | 1,309                                       | 2                                   | 1.5                           | 1,238                                       | 4                                   | 3.2                           | 2,689                                       | 3                                   | 1.1                           | 9  | 1.9                           | 3,163                             | 6   | 1.9                           |
| 1903  | 1,312                                       |                                     |                               | 1,240                                       | 3                                   | 2.4                           | 2,694                                       | 5                                   | 1.8                           | 8  | 1.6                           | 3,032                             | 4   | 1.3                           |
| 1904  | 1,316                                       | 3                                   | 2.2                           | 1,259                                       | 7                                   | 5.5                           | 2,700                                       | 0                                   | 2.2                           | 10   | 3.0                           | 2,902                             | 4   | 1.3                           |
| 1905  | 1,320                                       | 2                                   | 1.5                           | 1,260                                       | 1                                   | .8                            | 2,705                                       | 3                                   | 1.1                           | 6  | 1.3                           | 2,771                             | 6   | 1.8                           |
| 1906  | 1,323                                       | 2                                   | 1.5                           | 1,280                                       | 2                                   | 1.5                           | 2,711                                       | 6                                   | 2.2                           | 10   | 1.8                           | 2,640                             | 3   | 1.1                           |
| 1907  | 1,327                                       | 1                                   | .7                            | 1,290                                       | 2                                   | 1.5                           | 2,716                                       | 11                                  | 4.0                           | 14   | 2.6                           | 2,510                             | 2   | 1.1                           |
| 1908  | 1,330                                       | 3                                   | 1.5                           | 1,300                                       | 4                                   | 3.0                           | 2,722                                       | 6                                   | 2.2                           | 11   | 2.0                           | 2,379                             | 1   | .4                            |
| 1909  | 1,334                                       | 5                                   | 3.7                           | 1,311                                       | 1                                   | .7                            | 2,727                                       | 1                                   | .3                            | 7  | 1.3                           | 2,248                             | 1   | .4                            |
| 1910  | 1,339                                       | 2                                   | 1.4                           | 1,321                                       |                                     |                               | 2,733                                       | 10                                  | 3.6                           | 12   | 3.2                           | 2,117                             | 1   | .4                            |
| 1911  | 1,341                                       | 2                                   | 1.4                           | 1,331                                       | 4                                   | 3.0                           | 2,730                                       | 3                                   | 1.1                           | 9  | 1.6                           | 1,987                             | 5   | 2.5                           |
| 1912  | 1,345                                       | 1                                   | .7                            | 1,342                                       | 4                                   | 3.0                           | 2,745                                       | 3                                   | 1.1                           | 8  | 1.4                           | 1,858                             |   |                               |
| 1913  | 1,349                                       |                                     |                               | 1,352                                       | 5                                   | 3.7                           | 2,751                                       | 3                                   | 1.1                           | 8  | 1.4                           | 1,728                             |   |                               |
| 1914  | 1,355                                       | 3                                   | 2.2                           | 1,362                                       | 3                                   | 2.2                           | 2,757                                       | 7                                   | 2.5                           | 13   | 2.3                           | 1,599                             | 2   | 1.2                           |
| 1915  | 1,373                                       | 1                                   | .7                            | 1,375                                       | 7                                   | 5.0                           | 2,762                                       | 9                                   | 3.3                           | 17   | 3.1                           | 2,379                             | 3   | 1.3                           |
| 1916  | 1,340                                       | 4                                   | 2.9                           | 1,347                                       | 4                                   | 2.9                           | 2,676                                       | 7                                   | 2.6                           | 10   | 2.8                           | 2,353                             | 1   | .4                            |
| 1917  | 1,001                                       |                                     |                               | 1,334                                       | 3                                   | 2.2                           | 2,611                                       | 8                                   | 3.0                           | 11   | 1.9                           | 2,336                             | 1   | .4                            |
| 1918  | 1,669                                       | 2                                   | 1.2                           | 1,374                                       | 2                                   | 1.5                           | 2,673                                       | 8                                   | 3.1                           | 12   | 2.1                           | 2,122                             | 2   | .9                            |
| 1919  | 1,702                                       | 2                                   | 1.1                           | 1,214                                       | 3                                   | 2.4                           | 2,671                                       | 6                                   | 2.2                           | 11   | 1.9                           | 1,780                             |   |                               |
| Total | 77,880                                      | 41                                  | *1.5                          | 25,804                                      | 61                                  | 2.4                           | 54,003                                      | 112                                 | *2.1                          | 214  | *2.0                          | 48,622                            | 57  | *1.1                          |

\* Average

upon the mortality rates for the community or state are clearly evident. The above table, provided in the report of Drury<sup>2</sup> upon the incidence of tuberculosis among polishers and grinders in an ax factory, shows that the death rate from pulmonary tuberculosis among the workers was found to be more than ten times that for the general population of the state, and that the rate in mill towns (A) (B) (C) was approximately twice that for town (H) where the industries did not afford exposure to siliceous dust.

In the report upon the Health of Workers in the Granite Industry<sup>3</sup> by the Public Health Service, it was found that the annual rate per 1,000 for tuberculosis among pneumatic tool cutters for ages 20 and over was 19.58 while for rural Vermont the rate for a similar age group was but 1.42.

It has been estimated<sup>4</sup> that in the whole U S there are more than 500,000 workers employed under conditions affording a harmful exposure to silica dust. It is apparent that efforts to reduce tuberculosis among this group through control of the silica hazard and through a well planned education program as to how tuberculosis may be prevented will materially benefit the general population.

The antituberculosis campaign frequently carried out in our public school systems to detect and treat early cases of

pulmonary tuberculosis and prevent the spread of the disease, is just as applicable to adult population groups—provided contact with such groups may be established. It is known that the employees in certain industries are working under conditions that favor the increase and spread of pulmonary tuberculosis, and some of these groups have asserted their interest in a tuberculosis-control program, provided it may be carried out without creating undue and unnecessary economic and social handicaps. It is the duty of persons interested in the successful control of pulmonary tuberculosis in the community to develop this program.

It is well known that the incidence of pneumonia among iron and steel workers is greatly in excess of that for some other occupational groups and for the general population. Table 3 (page 1008), taken from Public Health Bulletin No 202,<sup>5</sup> reporting upon the incidence of pneumonia among iron and steel workers shows their pneumonia rate is approximately twice that for employees in public utilities and other industries as a group.

The report further states

"The death rate from pneumonia in the female population of the city at these ages was 56 per year per 100,000 during the four years ending December 31, 1927. In the registration states the rate for the same period was about 28. When

TABLE 3—FREQUENCY OF CASES OF PNEUMONIA (ALL FORMS) CAUSING DISABILITY FOR EIGHT CALENDAR DAYS OR LONGER AMONG THE MALE MEMBERS OF SICK-BENEFIT ASSOCIATIONS REPORTING TO THE UNITED STATES PUBLIC HEALTH SERVICE 1922 TO 1928, CLASSIFIED ACCORDING TO INDUSTRY

| Industry          | Annual Number of Cases per 1,000 Men (in Terms of Years of Life Observed) | Number of Cases of Pneumonia | Number of Years of Life Observed* |
|-------------------|---|------------------------------|-----------------------------------|
| Iron and steel    | 4.4   | 1,457                        | 330,606                           |
| Public utilities  | 2.6   | 521                          | 202,822                           |
| Other industries† | 2.9   | 854                          | 292,477                           |

\* Sum of the average number of members for each of the years included

† A miscellaneous group, products include chemicals abrasives, plumbing fixtures, electrical equipment, paper, paper novelties, timepieces, hats, underwear, flour, soap and other articles of manufacture. During the five years, 1924-1928 the pneumonia rate for this group was 3.0

the last-named figure was adjusted for the higher pneumonia mortality generally found in cities, an estimate of about 34 deaths per year per 100,000 females was obtained for the age group 15 to 45. Therefore, the mortality from pneumonia among the women of the city in which the steel plant was located was above the average for American cities.

"Among the city's male population at these ages the pneumonia death rate was almost twice the female rate. Among employees of the steel works studied, the rate was higher than among males in the general population, but this is of little significance since more than one-half of the male population of the city at the ages mentioned was estimated to be engaged in the steel industry. More illuminating is the comparison with the mortality rate of the women. In certain departments of the steel plant studied, e. g., the blast furnace, coke ovens, open hearth, coal mines, and general labor departments (considered as one group), the pneumonia death rate was 4.3 times that of women at the same ages in the city as a whole. There is little evidence, therefore, that community conditions were responsible for the high rate among the steel workers. On the contrary, the comparisons clearly indicate that the male pneumonia death rate of the community was increased appreciably by the prevalence of the disease among those engaged in certain processes of iron and steel manufacturing."

Pneumonia in all forms continues to be one of the leading causes of death. We

should not fail to grasp the opportunity we have here to follow established public-health procedure and plan for and carry to those most seriously affected a definite program. Those actively engaged in industrial-hygiene activities have here an opportunity not only to aid the workers as a group, but at the same time do work that will lessen the incidence of pneumonia among the general population.

Recent reports based upon analysis of data collected during the National Health Survey<sup>6</sup> indicate the severity and incidence of disabling illness and show a marked difference in time lost in various occupational groups.

A review of the experiences reported by those states providing compensation for occupational diseases indicates that although such diseases are definite and important, they are minor causes for lost time from work due to illness. Newquist has stated that there is approximately fifteen times as much time lost from work due to general illness as from specific occupational diseases and accidents.<sup>7</sup> When compared with compensation for accidents it is found that occupational-disease costs represent approximately 2 to 10 per cent of the total accident cost. Occupational diseases are preventable, and as our experience increases we should be able to reduce them to a marked degree more readily than we can expect to control accidents.

When industry first began seriously to control accidental injuries, industrial accidents were a major cause for lost time from work. With the development of a comprehensive accident-prevention program, industrial accidents are rapidly being controlled, so that at present it is estimated that off-duty accidents cause by far the greater amount of lost time from work. As a result we see the safety personnel devoting perhaps most of their time to educational measures designed to lessen accidents in the home, public meeting places, and on the highway.

As one important objective, there is a definite need in the teaching of medicine for greater stress to be placed upon the

relationship of environment to health. It is believed that this may be accomplished by the medical schools, without detracting from necessary clinical instruction relating to diagnosis and treatment. Obviously, medical students need to know curative measures. It is, however, just as obvious that they should likewise be familiar with preventive measures. Not that the proportion of time allowed in school, which is assigned solely to the subject of preventive medicine, need be lengthened, but that throughout all clinical years emphasis should be placed upon the relationship of environment to disease. One important factor or means of accomplishing this would be to train the student in taking a complete occupational history. With the information such a history would make available, there is less chance for neglecting to consider the effects of industrial environment when arriving at the diagnosis and treatment of diseases.

In our engineering schools, where in industrial processes and planning are taught, the accident and health hazards associated with the operation should be given the attention they merit. Thus, to our future captains of industry we should make available during their undergraduate or training career, such information as will make them familiar with industrial health and accident hazards. When the small plating tank, used for teaching purposes, is equipped with control exhaust, and its needs stressed, the larger ones used in industry will more likely be found effectively controlled. When new processes are discussed in the classroom and the operators' health considered, the same practice will more likely be found in modern industrial environment.

The necessary safety devices guarding against accidents and occupational diseases should be an integral part of machines and equipment manufactured for industrial use. Examples of the application of such preventive measures should be shown to engineering students. When employers demand safe equipment, manufacturers will produce it.

As another objective, there is immediate need for the development of a program of cooperation between state departments of health and organized medicine, which is designed to make available, to workers in the so-called hazardous trades and employed in small groups, effective health supervision. This supervision should be such as to afford the proper placement of applicants for work at tasks they are physically able to carry on with safety to themselves and to their fellow workers. It should provide regular periodic examinations of industrial workers to detect early evidence of any injurious effects of environment upon health, at a time that will permit elimination of the industrial hazard without necessitating change of occupation for the worker. Such supervision should likewise provide regular and authentic advice as to ways in which general health may be improved, and time lost from work due to preventive illness be effectively reduced. The benefits of such a program will be realized when and if state departments of health are staffed with adequate personnel, familiar with, and trained in, industrial hygiene as a public-health activity, and when collective cooperation is assured from managements and labor. Our social security program has made it possible for state health departments to initiate the assumption of responsibilities in this field as rapidly as trained workers are available.

It is encouraging to note that rapid progress is being made in the development of industrial hygiene as a regular public health activity.

At present there are 23 state health departments and 4 city health departments that have established bureaus or divisions of industrial hygiene. The majority of these units have been established during the past three years. Industry, labor, and organized medicine can do much to aid in the further development and usefulness of these agencies. All groups should become familiar with the plans made by these bureaus and how

they may be of public service. Not only the workers and their employers will benefit by such cooperative action, but what is just as important, community and national health will be improved and protected.

The situation as regards the prospects of an educational health program among employees of our larger industrial establishments is, fortunately, much more promising. Industrial medicine to these groups has come to mean preventive medicine, including the prevention of every-day illnesses as well as specific occupational diseases. It is indeed fortunate that we have this experienced group of medical and engineering personnel anxious and willing to assist health officials and the modern employer in rendering a similar service to establishments without full-time medical supervision. Within these larger units we have the organization already established to begin a more comprehensive program of health education. Leaders in safety promotion are usually well equipped to assist in arranging health educational activities. The addition of health topics to accident prevention programs will increase the interest of the worker in both phases of environmental protection. Workers have taken a greater interest in accident prevention since, as an organized group, they have been shown the need of their cooperation. We may expect equally whole-hearted assistance from them if they are given a part in an industrial community-health program.

It is obvious from these approaches that we have discussed that the situation requires the application of public-health methods relating to educational and administrative control. Public-health measures cannot be applied effectively in the control of illnesses until agencies are advised as to when, where, and why such illnesses are developing. The local and state health officers are unable to accomplish much without the cooperation of the

practicing physician in regularly reporting the incidence of disabling illness. In the case of establishments maintaining medical supervision this could be a relatively easy matter, but where such services are not available we must continue to look to the support of the family physician. It is believed that when a health agency is prepared to do something about those cases that are reported and take definite steps to prevent recurrence, we shall have the whole-hearted support of all regular practicing physicians.

Workers and their families are becoming increasingly health conscious. There is urgent need for health authorities both public and private to assume leadership in present health-education movements. Experience indicates that it is possible through well-organized public-health activities to make a group or community health conscious without the mass hysteria and fear that have sometimes followed unguided efforts to inform the public regarding health matters.

It is the feeling of those most closely associated with the development of industrial health activities in state and city health departments that, generally speaking, employers, workers, and communities favor this program, and with their support it is certain that the effects of well-directed industrial-hygiene activities as a public-health function will soon be reflected in an improvement in the general health of the community.

## References

- 1 Britten, Rollo H. Public Health Reports 49 No. 38 (Sept. 21) 1934.
- 2 Drury, W. Herbert. Reprint No. 640 of the Public Health Reports, February 4 1921.
- 3 Russell A. B. et al. Public Health Bulletin No. 187, July, 1929.
- 4 Lanza, A. J., and Vane, R. J. Am. Rev. Tuberc. 29: 8 (1934).
- 5 Brundage, Dean K. Public Health Bulletin No. 202, Nov., 1932.
- 6 The National Health Survey, 1936-38. Sickness and Medical Care Series Bulletin No. 1. "An Estimate of the Amount of Disabling Illness in the Country as a Whole." U. S. Public Health Service, Washington, D. C., 1938.
- 7 Medical Service in Industry and Workmen's Compensation Laws, page 32. By M. N. Newquist, American College of Surgeons, 1938.

Few things are more important to a community than the health of its women. If strong is the frame of the mother, says a proverb, the son

will give laws to the people. And in nations where all men give laws, all men need mothers of strong frames.—T. W. Higginson

# SYPHILIS CONTROL

## Administrative and Epidemiologic Aspects

CLEALAND A. SARGENT, M D , Buffalo, New York

(New York State Department of Health)

A SYPHILIS-control program should include case finding, location of sources of infection by epidemiologic investigation, treatment of patients with early and potentially infectious syphilis, prevention of congenital syphilis statistical studies, and public health education

### Case Finding

We are primarily interested in patients with early and potentially infectious syphilis. To classify cases and to avoid duplicate reporting, it is essential that a syphilis register, which consists of reports of all cases diagnosed as syphilis, be maintained. In addition to the identification of the patient, the case card should also contain the date and character of first signs or symptoms, date of diagnosis, serologic history, amount and kind of antisyphilitic treatment administered, and the name and address of the physician from whom the report was received

A register of serologic reports may be used as an additional aid in the classification of syphilis cases. If the serologic register contains both positive and negative reports, information pertaining to the results of the examinations of contacts and the serologic histories of reported cases may also be obtained. To reduce the clerical work to a minimum the original cards submitted to the laboratory with the blood may be used to make up the register of serologic reports.

The value of the registers of syphilis cases and serologic reports increases with the length of time they are kept and the volume of reports received. To be used to advantage the reports must be filed so that individual records may be located quickly with a minimum of effort.

The patient's name and case-card numbers may be entered on alphabetical cards that are placed in visible files, and the corresponding case cards filed in chronological order in vertical files. When the registers are made up of a large number of records, the individual reports may be coded and filed by the 'Russell-Soundex' method

### Advantages of the Syphilis and Serologic Registers

In addition to being aids to case finding, the syphilis and serologic registers are used to determine the areas in the city where syphilis is most prevalent, so that a more efficient control program may be planned. They are used to obtain information for statistical studies such as the difference in the median age at death of patients infected with syphilis, as compared with the median age of all patients at death. The serologic histories of patients who lapse treatment, as compared with those who submit to treatment regularly, the prevalence of syphilis among pregnant women, the rate of infection among various groups of the population etc. By recording all the serologic reactions, treatment history and diagnosis upon each case card, with the various changes in addresses and sources of treatment, we have been able to render a service to physicians. If a physician submits blood to the laboratory of a patient previously reported as a case of syphilis by another physician a letter is written to the physician in which he is informed that with the written permission of the patient, a search will be made of our files for information pertaining to the history of the patient. In

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 11 1938*



TABLE 1—DISTRIBUTION OF EARLY SYPHILIS CASES ACCORDING TO DIAGNOSIS WHEN REPORTED AND SOURCE OF REPORT

|              | Physician | Clinic | Total | Percent |
|--------------|-----------|--------|-------|---------|
| Primary      | 155       | 133    | 288   | 35.5    |
| Secondary    | 94        | 85     | 179   | 22.1    |
| Asymptomatic | 182       | 161    | 343   | 42.3    |
| Total        | 431       | 370    | 810   | 100.0   |

many instances we have been able to give the serologic and treatment histories over a period of years. This procedure tends to encourage the reporting by correct name and address. It also brings to the attention of the physician that the reports of cases may be used to good advantage and they are not placed in files merely for the purpose of accumulating records. Physicians will report cases if they can be assured that the information is to be kept confidential and that in return a definite service may be rendered.

The positive serologic report should be checked against the syphilis register. In Buffalo the laboratory report is used as the basis for the case report. If the case is located in the syphilis register, the data contained in the current laboratory report should be entered on the original case card. Changes of address, attending physician, etc., contained in subsequent reports should be noted on the case card.

If the name of the patient having a positive serologic report is not located in the syphilis register, the attending physician is requested to report the case using the report form provided for that purpose, or he may be requested by telephone to state the date and character of first symptoms and the diagnosis. If the attending physician is communicated with promptly following receipt of the positive serologic report, the desired information may be obtained by telephone without revealing the identity of the patient.

We are primarily interested in patients whose infection is in the early and potentially infectious stages. An early case is defined as one infected within one year. Women infected with syphilis are considered to be potentially infectious throughout the childbearing age. Male syphilis patients are classed as potentially

infectious until the end of the second year of their infection. Twenty doses of an arsenic and twenty doses of bismuth or a heavy metal are accepted as sufficient treatment to render a patient with syphilis noninfectious.

Records of early and potentially infectious cases should be placed in visible files, while records of the late and non-infectious cases should be kept in the inactive register.

Every precaution should be taken to keep all information confidential. All

TABLE 2—NUMBER AND PERCENTAGE OF CASES LOCATED THROUGH FOLLOW-UP ACCORDING TO STAGE OF DISEASE AND SOURCE OF REPORT

|              | Physician   |   | Clinic      |   |
|--------------|-------------|---|-------------|---|
|              | Total Cases | Cases Located through Follow up Percentage of total | Total Cases | Cases Located through Follow up Percentage of total |
| Primary      | 155         | 18 10 3   | 133         | 35 26.5   |
| Secondary    | 94          | 8 8.5   | 85          | 28 32.9   |
| Asymptomatic | 182         | 64 35.1   | 161         | 99 61.4   |
| Total        | 431         | 88 20.4   | 370         | 162 42.8  |

records must be kept in locked files. If there are large numbers of records it may be advisable to have them placed in a room in which no other form of clerical work is to be done, to which only those engaged in the syphilis-control program be permitted to enter, and a lock having no master key be placed on the door. No information should be given by telephone even to the attending physician.

Inasmuch as many patients with gonorrhea also have syphilis, all physicians to whom positive gonorrhea reports are sent should be requested to examine the patients for syphilis and to submit blood for serologic tests.

Table 1 indicates the diagnosis at the time of investigation of 810 early infectious cases in 1936-1937 in the city of Buffalo. It is interesting to note that 35.5 per cent of the cases had primary lesions and 22.1 per cent had secondary lesions.

Follow-up by epidemiologic investigation and examination of individuals in penal institutions, industrial plants, etc., have been a productive means of case

finding The number and percentage of cases located through follow up according to the stage of disease and the source of report is indicated in Table 2. This table indicates that 30.8 per cent of the early cases investigated were found as a result of various types of follow up.

### Epidemiologic Investigation

In addition to the identity of the patient, the epidemiologic investigation form should contain the classification of the case, data pertaining to the use of

TABLE 3.—INTERVALS BETWEEN ONSET AND DIAGNOSIS  
EARLY SYPHILIS—PRIMARY

| Interval         | Onset to Diagnosis |             |        |             |       |             |
|------------------|--------------------|-------------|--------|-------------|-------|-------------|
|                  | Physician          |             | Clinic |             | Total |             |
|                  | No                 | Per centage | No     | Per centage | No    | Per centage |
| Under 1 month    | 101                | 65.2        | 66     | 40.7        | 167   | 58.0        |
| 1-2 months       | 27                 | 17.4        | 33     | 24.8        | 60    | 20.8        |
| 2-3 months       | 9                  | 5.8         | 16     | 12.0        | 25    | 8.7         |
| 3 or more months | 18                 | 11.6        | 18     | 13.5        | 36    | 12.5        |
| Not stated       | 0                  | 0           | 0      | 0           | 0     | 0           |
| Total            | 155                | 100.0       | 133    | 100.0       | 288   | 100.0       |

prophylactics, the name, age, address, and marital status of all contacts prior and subsequent to infection, the dates and number of contacts and date and results of examination of contacts.

Compulsion should not be used to obtain the examination of contacts. Our investigators are not permitted to interview a contact in the presence of another individual. In general it has been our policy to have a contact interviewed by a staff member who does not know with whom the individual was in contact. This is done so that the name of the patient who gave this confidential information may not be disclosed. The contacts are submitted to repeated examinations for a period of three months.

As a result of the investigation of 810 early syphilis cases, 611 contacts were named, an additional 33 contacts were reported by first name only, and the inmates of 39 houses of prostitution were designated as the sources of infection. One hundred and forty six contacts were nonresident. Of the remaining 105 contacts, 12, or 2.5 per cent, refused to be examined. Three died before the exam-

TABLE 4.—INTERVALS BETWEEN ONSET AND DIAGNOSIS  
EARLY SYPHILIS—SECONDARY

| Interval         | Onset to Diagnosis |             |        |             |       |             |
|------------------|--------------------|-------------|--------|-------------|-------|-------------|
|                  | Physician          |             | Clinic |             | Total |             |
|                  | No                 | Per centage | No     | Per centage | No    | Per centage |
| Under 1 month    | 54                 | 57.4        | 38     | 44.7        | 92    | 51.3        |
| 1-2 months       | 17                 | 18.1        | 22     | 25.0        | 39    | 21.8        |
| 2-3 months       | 8                  | 8.0         | 8      | 9.4         | 16    | 9.0         |
| 3 or more months | 14                 | 14.9        | 16     | 18.8        | 30    | 16.7        |
| Not stated       | 1                  | 1.5         | 1      | 1.2         | 2     | 1.2         |
| Total            | 94                 | 100.0       | 85     | 100.0       | 179   | 100.0       |

nations were made. One hundred and fourteen of the remaining resident contacts were negative upon examination. Fifty five were negative upon one examination, 43 upon two examinations, and 16 upon three examinations. Five contacts were negative upon the first examination but were positive upon the second. Two contacts were positive on the third examination after being negative on two examinations. The 336 resident contacts with positive results upon examination, were classified as follows: early, 210, other potentially infectious, 50, late, 76.

TABLE 5.—INTERVAL BETWEEN DIAGNOSIS AND FIRST  
TREATMENT—PRIMARY SYPHILIS

| Interval         | Diagnosis to First Treatment |             |        |             |       |             |
|------------------|------------------------------|-------------|--------|-------------|-------|-------------|
|                  | Physician                    |             | Clinic |             | Total |             |
|                  | No                           | Per centage | No     | Per centage | No    | Per centage |
| Under 1 month    | 90                           | 58.0        | 75     | 56.5        | 165   | 57.3        |
| 1-2 months       | 2                            | 1.3         | 1      | 0.75        | 3     | 1.1         |
| 2-3 months       | 1                            | 0.7         | 0      | 0           | 1     | 0.3         |
| 3 or more months | 0                            | 0           | 1      | 0.75        | 1     | 0.3         |
| Not stated       | 62                           | 40.0        | 56     | 42.0        | 118   | 41.0        |
| Total            | 155                          | 100.0       | 133    | 100.0       | 288   | 100.0       |

By epidemiologic investigation the intervals between onset and diagnoses of early primary syphilis cases were determined. In Table 3 it will be seen that 58 per cent of the 288 primary cases were diagnosed within a month of the first symptoms. Table 4 indicates that the diagnoses of 51.3 per cent of the secondary cases were made within a month of the appearance of symptoms.

The intervals from diagnosis to first treatment of the primary cases were 57.3 per cent within one month, as shown in Table 5, and in the secondary cases 50.1 per cent as indicated in Table 6.

In our experience it has been found that to investigate approximately 100 early

TABLE 6—INTERVALS BETWEEN DIAGNOSIS AND FIRST TREATMENT SECONDARY SYPHILIS

| Interval         | Diagnosis to First Treatment |             |        |             |       |             |
|------------------|------------------------------|-------------|--------|-------------|-------|-------------|
|                  | Physician                    |             | Clinic |             | Total |             |
|                  | No                           | Per-centage | No     | Per-centage | No    | Per-centage |
| Under 1 month    | 64                           | 68.1        | 44     | 51.8        | 108   | 60.4        |
| 1-2 months       | 0                            | 0           | 1      | 1.2         | 1     | 0.5         |
| 2-3 months       | 0                            | 0           | 0      | 0           | 0     | 0           |
| 3 or more months | 0                            | 0           | 0      | 0           | 0     | 0           |
| Not stated       | 30                           | 31.9        | 40     | 47.0        | 70    | 39.1        |
| Total            | 94                           | 100.0       | 85     | 100.0       | 179   | 100.0       |

infectious syphilis cases to find 1 early case not previously reported among the contacts. For two months accurate records were kept of the time devoted to the various types of field work by the staff members. It was found that the average cost of investigation of early syphilis cases was approximately \$7 per case. The average cost of locating and persuading contacts to submit to examination was approximately \$17 per contact.

TABLE 7—EARLY SYPHILIS DATE AND CHARACTER OF FIRST SYMPTOMS UNKNOWN OR NOT STATED

| Interval         | Diagnosis to First Treatment |             |        |             |       |             |
|------------------|------------------------------|-------------|--------|-------------|-------|-------------|
|                  | Physician                    |             | Clinic |             | Total |             |
|                  | No                           | Per-centage | No     | Per-centage | No    | Per-centage |
| Under 1 month    | 85                           | 46.7        | 84     | 52.2        | 169   | 49.9        |
| 1-2 months       | 0                            | 0           | 1      | 0.6         | 1     | 0.3         |
| 2-3 months       | 1                            | 0.6         | 0      | 0           | 1     | 0.3         |
| 3 or more months | 2                            | 1.1         | 4      | 2.5         | 6     | 1.6         |
| Not stated       | 94                           | 51.6        | 72     | 44.7        | 166   | 48.4        |
| Total            | 182                          | 100.0       | 161    | 100.0       | 343   | 100.0       |

Not infrequently cases are located that cannot be classified as early, potentially infectious, or late, due to absence of symptoms and lack of history of lesions. All individuals under thirty years of age having two recent positive Wassermanns, not previously reported, negative upon physical examination, and giving no history of lesions of syphilis, are investigated as early syphilis cases. These cases are not classified as early cases unless among their recent contacts a patient is found with lesions of early syphilis.

Patients attended by private physicians are not interviewed without the consent of the physician. If an investigator is not permitted to interview a private patient, the physician is requested to obtain the information and complete the epidemio-

logic investigation form. For the most part, patients with early syphilis are interviewed only once by staff members. Practically all information obtained upon investigation as recorded in the preceding paragraphs was obtained upon one visit to the patients. It has been our experience that the investigation of early syphilis cases can be more thoroughly carried out by clinic physicians at the time of the patient's visit to the clinic than by field workers.

## Treatment

The public cannot be protected from syphilis by such measures as quarantine or immunization. Treatment of infectious cases controls the spread of the disease. Although antisypilitic drugs, laboratory services, and treatment in clinics are provided without charge for patients without funds, one of the major problems in syphilis control is keeping infectious cases under treatment until they are rendered noninfectious. A recent study of the treatment histories of 666 early and potentially infectious syphilis cases brought out the fact that 50.3 per cent of private cases and 75.5 per cent of clinic cases lapsed treatment before the forty doses of antisypilitic drugs were administered. Two hundred and sixty-eight patients, or 40.2 per cent, did not lapse treatment. The 398 patients who were delinquent actually lapsed treatment six hundred and fifty-three times, or an average of 1.6 times per patient. At the end of one year, 65.8 per cent of the patients had received the forty doses of antisypilitic drugs, 6.7 per cent were under treatment, and 27.3 per cent had been lost from observation. The nurses made 2,396 visits to patients who lapsed treatment during the year, or an average of 3.6 visits per lapsed case.

A definite program of obtaining the treatment histories of all early and potentially infectious cases at least once a month, should be carried out. In Buffalo, nurses visit all clinics each week at which time they obtain the names of

patients who have lapsed treatment. The names of private, early, and potentially infectious syphilis cases are entered on file cards, which are placed in a "tackler" file so that each week each nurse is given the names of patients to be checked with private physicians. Patients who have lapsed treatment are visited by the nurses, whose duty it is to determine whether there are sufficient reasons why the patient should not resume treatment. If there is no apparent reason why the patient cannot continue treatment, he is advised and urged to do so by the nurse. If the patient does not return for treatment within one week, a warning letter is delivered and read to the patient by the nurse. If all other means fail, we resort to legal compulsion but in such a way as to embarrass the individual as little as possible.

Patients who lapse treatment should be followed promptly to prevent the spread of syphilis and to locate them before the address has been changed so many times that there is danger of losing them.

By checking the treatment histories of private patients, we have been able to render a service to physicians, since every effort is made to induce the patient to return to the physician who was treating him when he lapsed treatment. During 1937 we were able to return 68 per cent of delinquent private patients to their physicians.

### Prevention of Congenital Syphilis

In Buffalo the names of all applicants for marriage licenses and the married and maiden names of all clinic prenatal cases are checked against the syphilis and serologic registers. All pregnant women who have been infected with syphilis are visited by the nurses and permission obtained to discuss the patient's history with the director of the prenatal clinic and to request him to administer antisyphilitic drugs during pregnancy. If a patient with syphilis in the early or potentially infectious stage has recently married, he is requested to have the

marital partner examined and kept under observation. This program will soon be unnecessary due to laws recently enacted.

The married and maiden names of all mothers of babies born in the city during the month of January 1938, were checked against the syphilis and serologic registers. It was found that only 8 per cent had serologic tests made during pregnancy. Four per cent of these names were in the syphilis register, indicating they had been diagnosed before pregnancy.

### Syphilis Control in Penal Institutions

The control program may be conducted to good advantage in penal institutions because an excellent opportunity is offered for case finding and the administration of treatment. We have a program whereby new patients are treated, and those under treatment before being committed to the county penitentiary are treated while in the institution and are returned to the clinic or private physician upon being released, so that there may be no interruption in the treatment.

### Syphilis in Industry

It is now the policy of many large industrial plants to examine all applicants for employment and to reject those who are infected with syphilis regardless of the stage of the disease. This procedure works unnecessary hardship on many individuals and tends to handicap the control program. We have attempted with a fair degree of success to induce the medical staffs of industrial plants to consider each case individually and to employ those who will cooperate by submitting to regular treatment.

### Publicity

We have recently completed posting approximately 175,000 letters to residents of Buffalo. Each envelope contained two pamphlets and a circular letter. To obtain an active mailing list and to avoid the criticism of using the names in our syphilis register, a large commercial firm in the city was induced to address all envelopes using their mailing list and

addressing the material in their plant

Articles are published locally from time to time and an average of forty talks per year for the past two years have been given before local groups

Bimonthly meetings of the clinic physicians, the medical consultant, and the director of the syphilis-control service are held. Both the clinical and control programs are discussed

The syphilis-control program should be well balanced. The first consideration should be given to the development of adequate diagnostic and treatment facilities. The case-finding program should not be stressed to the point where so many early and potentially infectious cases are found that they cannot be followed closely enough to keep them under treatment. The epidemiologic investigation of early cases is interesting, but does not lend much to the control program unless contacts are located and examined and all infected individuals

are properly treated. Attention to details is of extreme importance. The case cards should be kept up to date and active. The individual cards in the syphilis and serologic registers should be kept in their proper places, because to misplace a case card causes delay and possibly loss of the record if there are several thousand reports in the files. Very close attention should be given to keeping all information confidential. All forms should be completed so that no data may be missing when needed for future reports and studies.

It may not be practicable for a department with a small staff to embark upon a case-finding or an epidemiologic investigation campaign, yet a program of keeping reported early and potentially infectious cases under treatment until they are no longer infectious, should be a part of the public-health program of every department to which syphilis cases are reported.

---

## MEDICAL PLAN FOR TRANSPORT WORKERS

Medical care for the 55,000 members of the Transport Workers Union in New York City under the most comprehensive health program yet inaugurated by a union will start soon, according to the *New York Post*.

The result of more than a year of planning and study, the union's medical-care plan will cover all doctor's office and home care, the service of a staff of specialists, and minor and major surgery.

A hospitalization plan will be eventually included, but details of this part of the program are yet to be worked out.

The cost of the plan for the first year has been set at \$170,000. This amount will be met from a medical fund in the union's treasury, and the profits of two dances for which ticket purchases will be obligatory to all members.

The main body of general practitioners under the plan will be strategically located throughout the city, with about 1,000 members allocated to each doctor on the medical panel.

These doctors will be paid a per capita amount for each member for all necessary home and office care, and at least one routine examination a year. The amount to be paid is understood to be substantial.

In addition, the union will have a staff of eight specialists in surgery, x-ray, diagnosis, ear, nose, and throat, pathology, skin, and psychiatry.

The only other medical plan comparable in membership is the health clinic operated by the International Ladies' Garment Workers Union.

The Transport Workers' plan differs in that it provides medical care on a family doctor basis, whereas the I L G W U provides a clinic service.

The union is understood to be working out a plan with a number of private hospitals whereby members of the union will get reduced rates. Dental care may also be brought into the plan.

The program during its first year is expected to develop sufficient data for the building of a complete medical, hospital, and dental service not only for members, but also their families.

# GENERAL REFLECTIONS ON PSYCHOSOMATIC MONISM

SMITH ELY JELLIFFE, M D, New York City

**M**Y PURPOSE of being here this evening I think will be best fulfilled if I begin what I have to say by inviting you for a moment to a recent meeting of the New York Psychiatric Society over which Dr Brill presided and where Dr Frederick Tilney was the speaker of the evening. His was a most stimulating extemporaneous talk on 'Some Observations on the Meaning and Utilization of the Cerebral Cortex'.

In a simple and yet profound way he outlined the gradual organization of the form and function of the nervous system showing how from earliest forms it grew in response to future opportunities and how each and every part of the body became represented in neural structure for coordination and adaptive action.

I shall pick out for you but a very few of the aspects of his discussion. He traced the gradual synthesis of the general body functions of metabolism, etc., from the earliest nuclear responses, such as seen in simple spinal cord animals, up to their midbrain and final archipallial cortex. Then as the receptors of smell and sight and hearing and touch became more significant their representations in higher paleopallial and neopallial cortex, the higher always exerting some dominating or controlling action on the lower.

Among the bits of illustrative material he called attention to the behavior of the newborn rat, how helpless it was. It could not even find the mother's nipple without her help, even as you and I, and most interestingly it was pointed out that if the tail of the newborn rat was pinched it went into a convulsion, a thoroughly inappropriate effort to escape. But as the rat grew in days first the fore limbs and then the hind limbs lost their convulsive uncoordinated activities and finally the rat had control over efficient

means of escape and was able to run away from the tail pincher.

The discussion proceeded around the table, as has been our custom at these meetings, and finally it was up to me. Casting around for something to say, at least different from the other sharers in the discussion, I said that every time I came in contact with Dr Tilney and with his profound grasp of neural anatomy, I was much impressed and much like one of his described newly born rats. My tail was pinched and I went into a convulsion—not expressed in a motor way but purely in the mental realm. His canvas was so full of suggestive pictures I ran around in my head like a wild man trying to tie them together, especially as they could be applied to the everyday activity of the psychiatrist. I said that in my harum scarum psychical whirl induced by his intellectual pinch of my backward understanding, I grasped frantically for some life preserver, some conception of what was going on in this some island of safety to which I might struggle and from there emerge to the ground and finally coordinate my intellectual limbs for adaptive action.

I went on to say that in my whirl of stress I had clung as a foundation to a conception that had come to me from my interests in psychobiology, from the eminent English psychiatrist of the Darwinian school—Maudsley. It was an old idea but I liked the name, namely, that an organ of the body is a bit of structuralized material in the language of a materialist, whose work had intrinsically engraved itself into the structure behind it organic and which Semovitch and which Semovitch called *organism*.

which he built an imposing psychobiologic structure of the "mneme" or memory and its functions which belong in the frame of reference of what I wish to discuss this evening. Professor Bleuler, formerly of Zurich, has wrought this conception into a synthesis of great interest in a number of works, but more particularly in his *Naturgeschichte der Seele*.

When, as Semon put it, protoplasm touches the external world of reality, a definite impression is made upon its structure with a definite response and which when repeated gives rise to increased writing-in (engraphy) of stimulus and increased outward response (ecphoria). Here one may see a very precise formulation of oft repeated ideas—from Democritus, Heraclitus, Protagoras, to Locke, Hume, Kant, Leibnitz, Freud, etc.

We shall not linger with the historic phases of this gradual synthesis but as one looks backward along the pathway, two distinct branches are apparent. One arose chiefly from man's reliance upon older Platonic ideas. It has been called by many names, but I think you are best acquainted with it under the terms of dualism, psychophysical parallelism, or the body-mind problem. The other is the conception to which I would call your attention. I have chosen to term it psychosomatic monism. Smuts, the South African Dutch scholar, has termed it "holism." You all are acquainted with it under the "body as a whole" idea.

Perhaps I can best start my rough outline of this situation by a quotation from Whitehead's *Science and the Modern World*. This Harvard professor of philosophy writes: "The concrete enduring entities are organisms, so that the plan of the whole influences the very characters of the various subordinate organisms that enter into it. In the case of an animal, the mental states enter into the plan of the total organism until the ultimate smallest organisms such as electrons are reached. Thus an electron within the living body is different from an electron outside of it by reason of the plan of the body. The electron blindly runs either

within or without the body, but it runs within the body in accordance with its characters within the body, that is to say in accordance with the general plan of the body and this plan includes the mental state."

Here you perceive there is no hedging on the matter. We are not asked to consider the action of the mind on the body, or the body on the mind—as the dualistic, psychophysical parallelism conception phrases it. Here the focus is upon a scientific teleology of the mental state as bringing about a unified adaptation of all the organ behavior, right down the line until we strike bottom in the electrons.

This also is not a new idea. The ancient Greeks put it very clearly. I shall not bother you with the historic details but shall again briefly cite this same writer, Whitehead, wherein he states: "The Pilgrim fathers of the scientific imagination as it exists today are the great tragedians of ancient Athens, Aeschylus, Sophocles, and Euripides. Their vision of *fate*, remorseless and indifferent, urging a tragic incident to its inevitable issue, is the vision possessed by *science*. Fate in Greek tragedy becomes the order of nature in modern thought."

Scientific thought as it envisages causality thus would emphasize that "remorseless inevitableness" which we, as physicians, are called upon to cope with in our daily work and which, I would urge, can most advantageously be envisaged through the hypothesis of psychosomatic monism.

Let me try to illustrate by a brief citation of one of those tragic situations about which much is written under the term "cardiorenal hypertension."

Some twenty or more years ago an old and valued friend came into my office with grave concern. "My God, Ely!"—for he called me by my household name—"you must save my wife. The doctors have given her only six months to live!"

"Yes!" I said, "and what do they call it?" "Chronic Bright's disease," he answered. "And what doctors?"

He named a number all well known and highly respected by me as well as my colleagues

Well, I said you know I am not what they usually term an internist and do not trust in my competency to deal with Bright's disease

He pleaded on the score of a lifelong friend ship and I compromised.

I said in essence you are an engineer and are well acquainted with problems of physics, of energy of stresses and strains and maybe we can translate this term Bright's disease into something your engineering can comprehend. At least let us get an inventory. So I sent her for a complete survey to one of our outstanding hospital and reputable internists for two weeks.

I have published some of the details of this situation<sup>1</sup> and will not bore you with the data of the factual findings of this inventory.

When I finally called on Dr. X. and went over all the figures with him I said: Yes chronic Bright's all right, but why?

Hypertension 240/00 and other equally unpleasant variants from normal averages he emphasized.

"O K," says I and why the hypertension?

"Ah you see the kidney condition," says he.

Here I naturally could hardly repress a smile when I said, "Where do we get off?"

"We don't," he said and we parted miles away from any real psychosomatic monism. We had plenty of somatic end results but where in the language of Whitehead were the mental states?

When I told my friend of this impasse his engineering mind did not relish the dog chasing his tail—hypertension = renal disease and renal disease = hypertension syllogism. It was not good engineering and he pleaded with me for more understanding.

Here again I said O K. but give me two weeks for a different type of inventory taking so the wife came to my office for a look in on the mental states and chiefly not those known to her but the very ones that those Greek tragedians had emphasized, namely those experiences of life locked up in the mneme but not accessible to conscious verbalization—in short the unconscious where Fate and the Laws of Physics are but one.

You all know what Freud has claimed that of all the many roads into the unconscious, there is one, the royal road and that is the dream. So I asked her very soon with other things—had she had any dreams while in the hospital? Yes, she had one very vivid one. And this is a brief résumé of the dream.

She was at her country home. A path led from the house down to a country road at right angles

*She saw approaching at great speed two men driving racing sulkeys from the right. They swept by the path she running toward them in great anxiety almost shouting for them to stop but they swept on up a steep hill to the left with terrific speed. As the one on the left got to the top of the hill he turned again to the left and horse and sulky and driver ran into a stone wall about two feet high and were smashed to bits.*

So I said And suppose you did such a thing as this?

I'd be crazy," she said.

I think I quoted to her an ancient saying of one of the friends of those ancient Greeks, Heraclitus—who in a fragment left us—wrote:

For the waking there is one common world but for those asleep each one turns aside to his own privacy. And do you imagine you can do with impunity what you dream? Is it not because you lie still and do not act that you can indulge your fantasies?

You are quite right this is a crazy fantasy—but what is there going on in the unconscious that wishes to wreck itself? At any rate here is something to work with a little further along the line that the tweedledee and tweedledum of the hypertension = kidney = hypertension formula. Here is an inkling of a mental state of self destruction that in the language already quoted leads down through the different organisms of the body until the electrons are reached and a biochemical bottom at least temporarily plumbed.

Whence came this wish for self-destruction? Who was the man in the sulky to begin with? Why this dirty dusty road? Why such dynamic urge and speed? Why to the left? Why the stone wall? Why two feet high?

I will not go over all the displacements, condensations distortions dramatizations, secondary elaborations of the dream work of this and other probings into the unconscious that revealed the stresses and strains the tragedies of maladaptation to the oldest of biologic mnemonic patterns i.e. the pattern of immortality of the race that is the reproductive pattern.

In the first place the man in the sulky was the father as every psychoanalytically oriented listener would have known and as free associations fully corroborated. He was fond of fast horses had a racing sulky, often took her out as a little girl for a race on the speedways of their native town. It was tremendously exciting but on the other hand how impatient she was to get home as after the race they walked back to the stable either to relieve a bursting bladder or to recover from her shame and chill of having wet her panties something not rare in her childhood and infancy.



Here was a clue to relevant activities connected with "water" holding and releasing I shall not go into the details that revealed complete blocking of the *supremacy of the genital-zone development* Although she had had four or five children, she never had had an orgasm, nor thrill, not even in masturbation A gynecologist had suggested she try it. It was no use The frigidity and fixation lay further back It went back into the primitive *urethral eroticism* Only one of the earliest prototypes of genital gratification had been reached and fixated and held on to Hence innumerable water plays as a girl, yachting and water enjoyments when older, much—very much—water drinking As I have already phrased it she drank gallons of water to get pints of urine with which to satisfy her excitement and frustrations at higher levels and here one gets a vista, not a complete picture of a dynamic happening where disjointed bits of the "house that Jack built" formula are apparent

I know you are inquiring what could be done about it? Here was an infantile behavior pattern that had eaten its way into organic function and that could not be recalled Irreversible cellular-biochemical patterns that we call Bright's disease had been established and could not be altered It was too late to reverse the process

Nevertheless I was intrigued to learn more of the dynamic libido situation and patiently and "unentgeltlich" worked at the problem She did not die in six months, in fact, and here came in a bit of ironic humor, we sent her back to the hospital after six months with a reasonable blood pressure, no casts, and a much altered picture So much so that when a re-inventory was taken, Dr X said it was impossible, the internes had gotten their reports mixed It was some other woman they had reported on

For four years she was relatively healthy Then another tragic re-entry of father fixation and frustration factors entered the scene and tore down the reconstructed edifice we had been building and she quietly finished her self-destruction

Now permit me to rapidly outline another illustration that may bring into relief another aspect of the principle of psychosomatic monism

This time the patient stands before you I am my own experimental guinea pig Here again I must plead guilty of a certain amount of duplication since in Lectures to the Larty at the Academy<sup>2</sup> last year, in discussing the background of psychiatry, I drew a full-length portrait of my iniquitous behavior Some of you possibly may have heard me

In short I related how within the past half dozen years or so I had slowly developed an annoying "spasmophilia" Often in response to a sudden sound, such as a slamming door, or a telephone ring, my body would suddenly shiver If perchance my knee or foot was touched, a sudden kick would occur To other sensory stimuli, a related type of exaggerated response would occur I would suddenly turn my head as if to see something or someone behind me and just in time would realize it was a flicker in my glasses, or even an illusion arising from a straggling hair of my eyebrow

More impressive and more amusing occasionally I would catch hold of a hallucinatory image For instance, passing as I did at hourly intervals from my waiting room back to my office, as I would usher a patient back to my office at the rear of my house, I would pass through a room used by my secretary Here at my right I would pass a stack of drawers in which I filed reprints Each drawer was piled one above the other with its white label Frequently a hallucinatory image of a footman such as one sees at restaurants or an apartment house, or of a bell hop in uniform would leap upon my spirit's stage, to be resolved immediately into its reality of my reprint cabinet In short my reality tester, my Freudian ego, at once disentangled the illusory-hallucinatory picture into what was really there. Had this ego defense mechanism not been able to correct the image as already commented upon, or had I suddenly called "Here, boy, send up a bottle of Vichy and some glasses to room 66," I would have been a case to come under the administration of Dr Brill or Dr Gregory and reasoned it all out in Bellevue

Here obviously was something wrong and something to be analyzed. That I was having my "tail pinched" and on the edge of a minor convulsion, even if only spasmophilic, is apparent

So to the biochemist and my calcium metabolism (my electrons), since, as you all know, spasmophilia and calcium have some connection But no, to use Cannon's phrase, my "honico statis" was keeping my blood calcium within a proper range Also happening to have a fibrositis in my right hamstring group, the x-ray was my next step and now the rat was in the bag, for this skull of mine was, as Dr I Seth Hirsch pronounced it, a beautiful Paget skull It had had innumerable pilferings taken from it, obviously to keep up the blood calcium homeostasis

This set me looking around for other sources of the trouble and I fell upon a peculiar idiosyn

crasy of my breathing. In short, this consisted in a habit of taking deep inspirations and then rushing as many words out to the very end. I would squeeze every possible bit of verbiage out of each of these deep inspirations. Thus you note there was a constant hyperventilation going on. Here we strike another level of adaptation. My acid-base equilibrium was always being put in jeopardy. To keep on the alkaline side, the  $\text{CO}_2$  buffer was overworked and the call for calcium was incessant and insistent. There were many intermediary stages and also a host of mechanisms allied to the squeezing of everything out of each effort.

In writing in sentence formation in thinking this grasping for completion for a philosophic all-embracing finality. As I looked back over the years from early boyhood there was long distance running, sometimes lasting the greater part of a day that followed a similar pattern. I shall not weary you with all of the related identifications small and large of this process. I shall but intimate something about the prototype which undoubtedly extended away back to the polymorphous perverse level of the libido activity of the nursery. This must have concerned itself with bowel activity. Here is the man again doing what the infant and little boy must have been endeavoring to do. I was *trying hard* at the fecal level.

And without further ado the mental state is before you. There was some libido fixation at the oral anal stage of my libido organization. The motive or purpose aspect of the whole series of stages is now dimly envisaged and all of the organs of the body were caught up in the vicious process. In these days of endocrine super awareness naturally the parathyroids stand out as the major villains in the plot. The chain gang starts with the hyperventilation, then the  $\text{CO}_2$  buffer needs reinforcement, then the calcium demand, and the speculations from its bony reserves. The parathyroid is being stimulated to its utmost—maybe it is adenomatous—and all because the infant in me is *trying hard*.

Had I the time and you the patience to hear a complete recital of the innumerable character traits that have flowed from this 'try hard' anal sadistic investment it would further enlighten, and I believe would amuse you, but the hour is late and your guinea pig has told enough

about himself. Sufficient, I trust, to bring to clear perception the psychosomatic monism that runs through the whole process, which should it lack the purpose- or mental state quantum in the whole picture would leave but a series of disjointed, unrelated bits of organ activity running all the way from my startle, my kick, yes, even to a possible parathyroid bony pressure on my auditory nerve and deafness.<sup>1</sup>

In closing I would not wish to leave with you the impression that every medical situation with which you come in contact requires such a complete unfolding that follows the nursery formula. "This is the maiden all forlorn, who milks the cow with the crumpled horn, that tossed the dog, that chased the cat, that killed the rat, that ate the cheese that lay in the trap that sat in the house that Jack built."

With a tongue in my cheek may I suggest that the trap is physics, the cheese, chemistry, the rat, the cat and the dog, physiology. This brings us to the sorrowing maiden. Here we meet with ambivalent and apparently conflicting elements in the personality. As the female component in the biologic pattern, what maiden would not be forlorn had she only a "crumpled horn" at her disposal and, as for the opposite component, I am certain you agree that few real males wish to be loaded with such a castration complex.

I do hope, however, that in the two clinical situations so hastily sketched I have offered something in return for your patience in listening to the recital of my woes and at the same time given a glimpse of what I mean by psychosomatic monism.

64 West 56th St

### References

1. Jelliffe S. E. Arch. Neur. & Psych. 8: 659 (1922)
2. Milleson in Medicine, D. Appleton Century Company, New York 1938
3. Jelliffe S. E. J. Abn. Soc. Psychol. 32: 106-181 (1937)

BRITISH HUMOR (Transmitted by A. S. I. Missin)

No authenticated case has been known in which sterile parents have transmitted that

quality to their offspring.—Letter to the *Times* quoted in *Punch* and *J.A.M.A.*

# ACCESSORY URETHRA

## Report of Two Cases with a Review of the Literature

OSWALD SWINNEY LOWSLEY, M D , F A C S , New York City

(From the Department of Urology [James Buchanan Brady Foundation] of the New York Hospital)

**A**CCESSORY urethra is a rare anomaly. The literature on the subject is, however, quite extensive. Those who encounter such cases apparently feel that they should be placed on the record, if for no other reason than their rarity. Consequently, the collection of case records is fairly complete, and the reporting of additional cases, one feels, is not only justifiable but obligatory in order that the medical profession may be supplied with complete data on an interesting malformation that frequently assumes pathologic importance.

### Literature

The literature has been carefully reviewed by Aievoli and Bonabitacola (1905), J. Leon Herman (1913), and Nové-Josserand and Gayet (1922). As far back as 1891 Taruffi made a study of this anomaly and established a classification that has been generally followed by later writers. He distinguished four types of accessory urethra, but his fourth group seems hardly necessary except to exclude certain congenital fistulas, resulting from cloacal defects in the embryo, which have been reported in the literature as urethras. His first three types are as follows:

1 The seminiferous canal. Vesalius was the first to record a case (seen at autopsy) in which there were two meatuses upon the glans through one of which seminal fluid was ejected, the other serving for the passage of urine. These are very rare, only three or four having been reported.

2 The blind-ending canal, either terminating on the surface of the penis or

opening into the normal urethra but not extending to the bladder. Of this type Taruffi mentions examples reported by Bailie, Monod, Luschka, Kuster, and Bollinger. The probable origin of these channels is either the embryonic transformation of a urethral gland into a canal that thereafter develops independently of the normal urethra, or some mechanical influence during the intra-uterine period which bifurcates the normal channel of the primitive urethra, the upper portion then losing its relation to the rest of the urinary tract and terminating blindly. There are two distinct types of blind-ending canals. Group (a) includes any accessory canal that opens on the surface of the penis but does not communicate with the normal urethra or bladder. These are common in hypospadiacs, the opening usually being on the under surface near the meatus, although a few have been reported as opening on the dorsum. Group (b) includes canals that open into the normal urethra but end blindly in the penile urethral tissue. These are undoubtedly embryologic defects and are not to be confused with the normal paraurethral ducts opening into the urethra and leading into short cul-de-sacs.

3 The uriniferous canal—an accessory channel communicating freely with the urethra at some point in its course and opening on the surface of the penis. This is the "urethra duplex" of which a number of cases have been recently reported, especially in German literature. "Double urethra" is a misnomer when applied to these cases, and is correctly used only when referring to duplication

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 10, 1938*

of the entire urethra—an exceedingly rare anomaly. Young was able to find only 5 cases of true urethral duplication, with double penes, up to 1926. Two complete urethras in a single penis is almost equally rare. MacKenzie found only 7 cases up to 1916, and 2 more have been reported in recent years by Heymann (1933) and Delvigne (1934).

The earliest reports of accessory urethra, though very interesting, do not give sufficient data to permit their being classified. Even Aristotle left a record of such a case, and according to Vesalius the Arabs in their writings made mention of instances where the penis contained three canals—one for urine, a second for spermatic fluid, and a third for prostatic secretion.

Early in the eighteenth century Fabricius de Hilden wrote an account of a boy of twelve years who urinated with equal freedom from either of two orifices situated side by side, the passages into which they opened being separated by only a thin membrane. As there was at that time no means of satisfactory exploration, there was no way of determining whether the accessory urethra continued uninterrupted to the bladder, or whether, as is more probable, it opened into the posterior urethra below the prostate.

In the nineteenth century the great increase of interest in urology, especially in France, is reflected in the increased number of published observations upon urethral anomalies. Vidal de Cassis in 1834, reported the cases of Monod, and other writers who added to the literature at this period are Marchal Pigné, and Cruveilhier. Jerjavay's monograph on the male urethra (1856) also treats of anomalies of this passage and Verneul (1852), Guyon (1863), Lejars (1888), LeFort (1886), and Paul Delbet (1898) all described cases and contributed information upon the subject. Of more recent authors mention has already been made of those who have reviewed the literature in extenso to whom should be added David W. Mac

Kenzie, whose excellent work on urethral duplications of all types was published in 1916.

### Etiology

The theories regarding the etiology of this anomaly are almost as numerous as the writers who have propounded them. The established embryology of the penis, while offering possibilities for developmental errors that would account for many of the types of accessory urethra that have been observed, fails to cover all the variations that have been recorded.

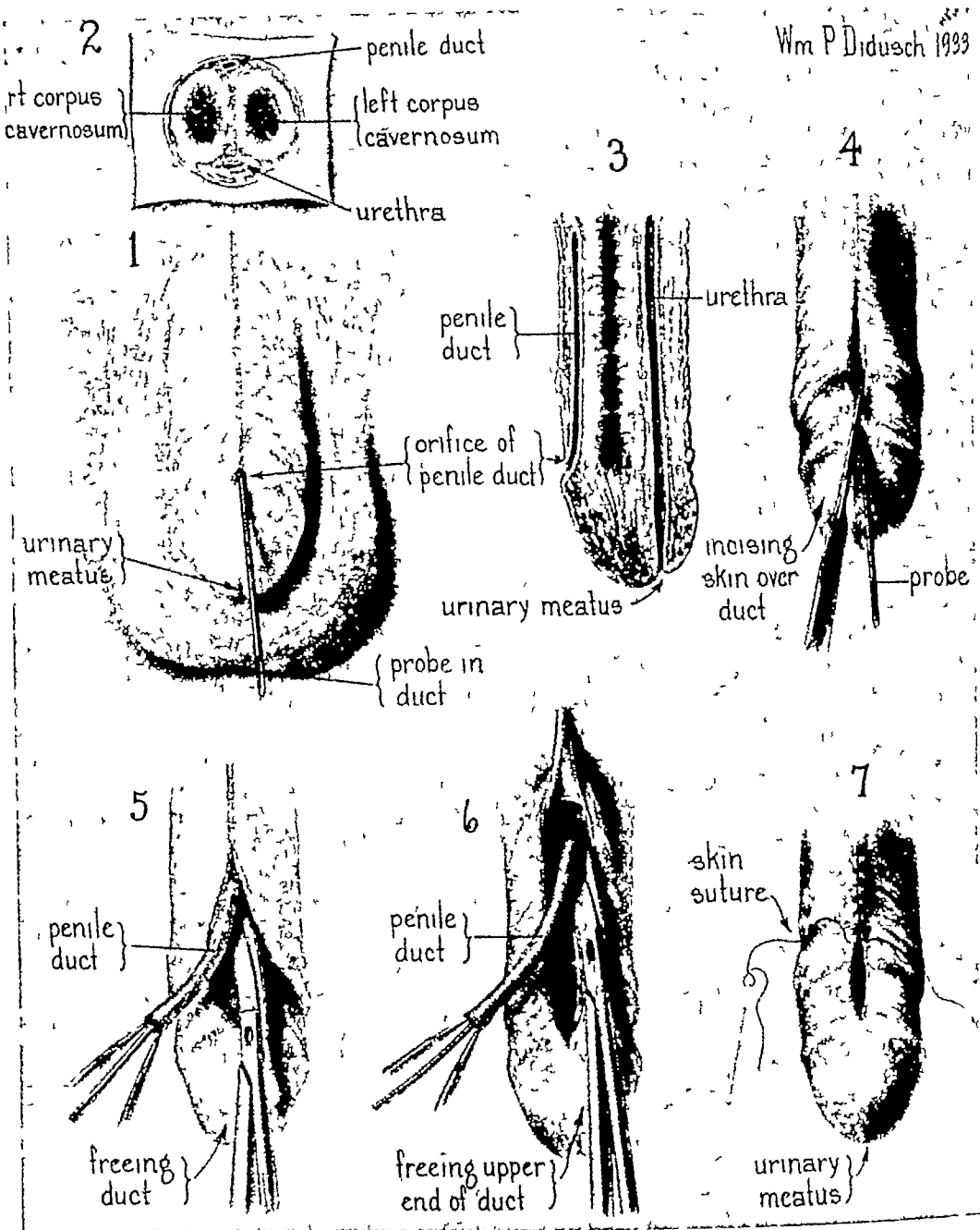
Nové-Josserand, in his contribution to the *Encyclopédie française d'urologie*, sums up the various theories by saying that these fistulas develop anomalously in the same manner as epispadias, but to a lesser degree. Inasmuch as epispadias results from a defect in the roof of the canal, it is rational to suppose that this defect might be only partial and limited to the cell masses on the upper surface of the epithelial layer that forms this covering. If a bud formed, with its growing direction toward the genital tubercle's dorsal surface, the abnormal channel would pierce the mass in a manner analogous to the growth of the true urethra, but might easily have no actual connection with it.

This hypothesis, Nové-Josserand thinks covers all cases no matter where the anomalous canal extends or at what point, if at all, it communicates with the normal urethra or with the bladder.

### Case Reports

The 2 cases observed by the author belong in group 2(a) namely, the type of accessory canal that opens upon the surface of the penis but does not communicate with the urethra or the bladder. In 1 case there was gonococcal infection of the accessory canal. The other case was uninfected and is of interest solely because of the urethral anomaly.

A brief résumé of the history, physical findings and treatment follows.

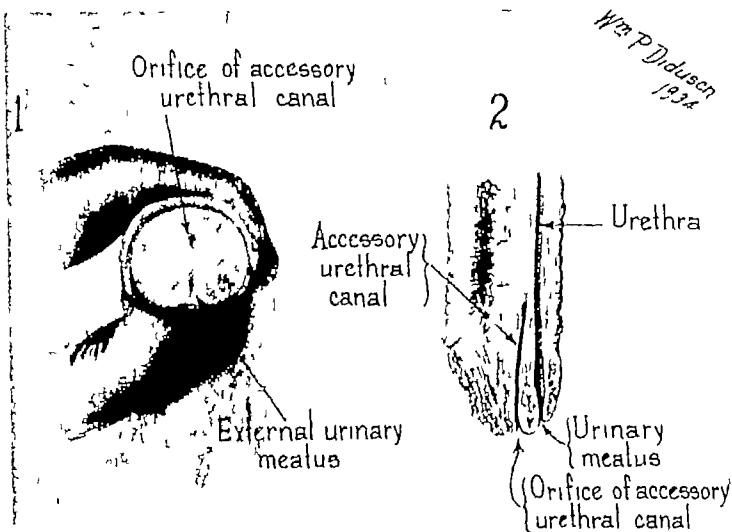


Case 1 Plate 1 Fig 1 Shows a probe in accessory urethra Fig 2 Cross section of the accessory urethra above the corpora cavernosa Fig 3 Sagittal view showing the urethra and accessory urethra separated by the corpora cavernosa Fig 4 Incision over accessory duct Fig 5 Dissection of accessory duct Fig 6 Removal of accessory duct Fig 7 Skin suture

*Case 1*—S D, a white male, 27 years old, reported on October 3, 1933, complaining of discharge from the urethra.

General physical examination showed the patient to be a healthy young male whose vital

organs were all in good condition. Special examination disclosed a discharging fistula on the dorsum of the penis, the opening of which was about 1 cm above the normal urinary meatus. Probing of this accessory duct showed it to



Case 2 Plate 2 Fig 1 Shows the orifice of the accessory urethral canal above the external urinary meatus. Fig 2 Sagittal view showing the accessory urethra and its relation to the urethra—both below the corpora cavernosa.

extend from the external orifice the entire length of the penile shaft down to the pubic hair. Examination of the discharge revealed numerous gram negative diplococci.

The patient was treated for three weeks with out benefit. On October 20, 1933, he was taken to the New York Hospital and was operated upon the next day.

**Operation**—A probe was inserted into the accessory urethra, and an incision made in the midline of the dorsum of the penis. The anomalous meatus was separated from the surrounding structures grasped with Allis clamps and the entire accessory duct separated and removed. It was found to extend to the junction of the penis with the body wall and to have no connection whatever with the urinary passage. Bleeding points were ligated and the skin sutured with silkworm gut. The patient made an uneventful recovery and never developed gonorrhea in the urinary duct. He was discharged cured on November 2, 1933.

**Case 2**—F. S. M., a white male, 40 years old, was first seen on March 20, 1934, complaining of colicky pains in the left loin and groin. He

had had these attacks over a period of nine months.

General examination revealed nothing of moment. Special examination of the penis disclosed an accessory urethra, the meatus of which began at the top of the glans penis about  $1\frac{1}{2}$  cm. above the normal urinary meatus. Probing showed that this tubular structure extended backward and downward for a distance of approximately 4 cm. No connection with the urinary passage could be demonstrated. Cystoscopy and pyelography revealed a stone about 1 cm. wide and  $1\frac{1}{2}$  cm. long in the left ureter opposite the end of the sacrum.

On March 29, 1934, cystoscopic examination under spinal anesthesia showed the stone in the left ureteral orifice. The Lowsley rongeur was inserted and the stone and a part of the ureteral orifice were grasped in the instrument, but the stone slipped back into the ureter and the ureteral orifice was incised. The stone passed out of the ureteral orifice and examination on April 5, 1934, under spinal anesthesia showed it to be in the posterior urethra and about the size of an olive pit. It was pushed into the

bladder and removed by the Lowsley rongeur

The accessory urethra in this case was discovered by accident. The patient had noticed a slight groove on the end of the glans penis but had never paid any attention to it as it had never caused him any distress

### Summary of Study

The accompanying table includes only those reported cases in which the accessory urethra opens on the surface of the penis and has no connection whatever with either the bladder or the urethra

An interesting feature of this review is the fact that many of the patients were unaware of the abnormality until they became infected with gonorrhea. The adult patients, as a rule, displayed no other abnormalities. In the very few seen earlier in life there were usually other abnormalities, for the correction of which the patient had come under observation

In all, 42 cases have been collected, including the author's 2. The oldest patient was 64 years old and the youngest 9 years of age. All of these accessory canals were, of course, congenital, but in most cases the patient's attention was not drawn to the condition until adulthood. Of the 34 patients whose ages are given, 23 were between 20 and 30 years of age when they came under observation

Fifteen of the accessory canals opened just above the normal urinary meatus. Next in frequency were those opening on the posterior surface of the penis, between the corona of the glans and the pubic hair line—10 in all. Six opened at the balanopreputial fold on its dorsal aspect, and 3 below the normal urinary meatus. Three interesting cases were found in which the orifice of the accessory canal began at the edge of the pubic hair on the dorsum of the penis. In 1 case the accessory urethra opened in the normal location of the urinary meatus, the urine flowing from a hypospadiac opening 2 cm below and behind this point. In another case the opening was separated widely from the urethra—the author fails to state where

The author presented a case in 1926

(Lowsley and Kirwin *Text-Book of Urology*, page 179) in which an accessory canal persisted in the median raphe of the scrotum, beginning at about the middle of the scrotum and ending just anterior to the anus. This case is not included in the study proper as it was not considered to be an accessory urethra, but rather a tubular structure growing in the median raphe of the scrotum

Of the 42 patients listed in the accompanying table, 12 were operated upon. One of the author's cases belongs in this group. The operation consisted in excision of the accessory urethra in 6 cases and in incision of the canal with curettage of the epithelial lining in 6 cases. One of the reported cases was discovered at autopsy, and 4 of the patients were advised to be operated upon but refused operation. In the remaining 25 cases no operation was performed

Twenty-six of the 42 patients suffered from gonorrhea, of these, 15 had infections in the accessory urethra only, 3 had the disease in the normal urethra only, and 8 had gonorrhea in both canals. Four other patients had nonspecific infection of the accessory duct. One patient suffered from retention of urine, 1 had ectopic testicle, and 1 ureteral stone. In 9 cases no mention of any lesion was made

One realizes, as one studies these cases, that the discovery of the accessory canal lies with the doctor rather than with the patient, who usually has an orifice in plain sight but rarely pays any heed to it until infection of some sort focuses his attention upon the region

### Conclusions

1 Accessory urethra is a rare anomaly, and is of three types (1) the seminiferous canal, (2) the blind-ending canal, either (a) opening on the surface of the penis or (b) opening into the normal urethra, (3) the uriniferous canal

2 The 42 cases herein described, including the author's 2, belong to the second group—blind-ending canals opening on the surface of the penis

3 The accessory urethra would prob-

ably be unnoticed by the patient in most instances if he did not become infected

4. In a number of the cases the urethral anomaly was discovered during examination for other causes

5 The treatment of choice, when the

accessory canal is infected, is complete excision

6 Palliative treatment with chemicals is ineffectual in every instance

7 Incision and curettage is not as satisfactory as excision

TABLE—ACCESSORY URETHRA BLIND-ENDING CANALS OPENING ON THE SURFACE OF THE PENIS

| Date | Author     | Age | Condition   | Operation                              | Other Treatment  | Results and Remarks  |
|------|------------|-----|---|--|--|--|
| 1797 | Baillie M. |     | Canal beside urethra 2 in long opening on glans ending blindly  |  |  | Cited as textbook example No clinical details. Probably autopsy specimen   |
| 1851 | Marchal    | 27  | Abnormal opening 14 mm from normal meatus canal 78 mm long ending blindly in suspensory ligament  |  | For gonorrhea balsam and injections                          | Infection cleared up readily in normal urethra persisted long in accessory canal   |
| 1858 | Picardat   |     | Supernumerary opening on dorsum of penis from which accessory canal palpable as a cord as far as the pubic arch   |  | For gonorrhea of accessory canal Normal urethra not infected | Eventual cure of both Cures of gonorrhea No attempt made to remove anomalous canal Patient a young soldier age not given       |
| 1865 | Luschka    | 19  | Opening at edge of pubic hair on dorsum of penis Canal 15 mm long ending in 4 "pores" that were excretory ducts of a "gland" believed to be an aberrant prostatic lobe  |  |  | Autopsy specimen. Subject a suicide. The anomaly apparently involved the prostate as well as the urethra                       |
| 1866 | Vernueil   |     | Accessory opening on upper third of dorsum Canal felt as hard cord running to symphysis where it probably ended blindly   |  | For gonorrhea only   | Patient a young soldier no age Refused exploration by sound and disappeared When seen later the infection was cured            |
| 1867 | Pittram    | 64  | Epispadias. Abnormal opening in front of balanopreputial fold leading to canal 3 cm long, having no connection with normal urethra  |  | Catheterization for retention                                | Patient had prostatic hypertrophy No urine passed through anomalous urethra but during ejaculation a thin fluid flowed from it |
| 1882 | Lazardo, E | 20  | Urinary meatus oval 3 orifices, 1 above and other Urine came from lowest. Upper led to canal 14 cm. long apparently ending blindly  |  |  | Middle orifice apparently so tiny it was not explored  |
| 1883 | Perkowski  | 24  | Normal urethra. On dorsum of penis a gutter leading to an opening at root of penis which opened into a canal admitting a No 18 sound ending blindly at pubic arch   | Canal laid open cauterized and sutured | Tinct. of iodine   | Only the supernumerary canal infected normal urethra healthy   |
| 1888 | Englek, J  | 30  | 3 mm. opening on mid dorsum of penis. No furrow on superior surface of glans. Sound passed 12 cm. under septum of corpora cavernosa, stopped at pubis, apparently in cul-de-sac. No communication with normal urethra |  | Lead and boric acid injections                               | Amelioration Author remarks that cure impossible except by extirpation of the abnormal canal                                   |
| 1888 | Lejars     | 30  | Abnormal opening on dorsum behind corona giving on a canal of 4 mm. caliber ending blindly at symphysis   |  | For gonorrhea  | Author regards this as anomaly of development due to failure of corpora cavernosa to establish normal relations to each other  |
| 1888 | Ellenbogen | 27  | A furrow on superior surface of glans led to the balanopreputial fold where a 3 mm. opening gave entrance to a canal ending blindly at symphysis pubis subcutaneous throughout  |  | Normal urethra treated for gonorrhea                         | Part of prepuce congenitally absent; the part present hung down underneath like an apron. Glans curved into an S-form          |



| <i>Date</i> | <i>Author</i>               | <i>Age</i> | <i>Condition</i>   | <i>Operation</i>   | <i>Other Treatment</i>   | <i>Results and Remarks</i>   |
|-------------|-----------------------------|------------|--|--|--|--|
| 1889        | von Dittel                  | 28         | On back of penis an opening 2-3 cm behind the glans gave access to a canal admitting a sound for 6-8 cm, which had no communication with the normal urethra  |  |  |  |
| 1891        | Frigerio, L                 |            | Open furrow on dorsum of penis Constricted near meatus, widened as it ran $3\frac{1}{2}$ cm on corona, where it formed a tiny tubercle behind which was an opening to a canal 4 cm long  |  |  | Reported by Taruffi, Nothing but anatomic particulars given  |
| 1892        | Englisch J                  | 31         | Back of corona, about $3\frac{1}{2}$ cm. in skin of prepuce an opening into a canal 4-3 cm long descending deeply along septum of corpora cavernosa to end in a cul-de-sac under pubic arch  | Refused  | Antiseptics for gonorrhea  | In addition to accessory urethra at summit of glans the meatus was divided by a fold the upper orifice leading to a pocket 5 mm deep, the lower conducting to the true urethra |
| 1893        | Posner, C., and Schwyzer, F | 20         | Supernumerary opening 3 mm above meatus into which a sound was introduced $14\frac{1}{2}$ cm as far as the pubis, the canal being dorsal and median Unconnected with the urethra   | Section of canal and excision of its lining Healed by second intention | Antiseptic treatment of gonorrhea  | Left testicle undescended  |
| 1893        | Meisels, V                  | 27         | A second canal above normal urethra had a separate meatus but pursued parallel course. A 4 mm sound penetrated 12 cm Beyond, like a fine thread, it extended to the bladder but had no connection with normal canal  | Canal opening to root of penis, mucosa excised                         | Both canals infected with gonorrhea, no mention of treatment                                       |  |
| 1895        | Nobl                        | 22         | Two openings on glans, upper the entrance to a blind ending canal admitting No 3 sound for nearly whole length of shaft  |  | Both urethras infected with gonorrhea, which was treated   | Brief anatomic report made to medical society, no details  |
| 1895        | Martin G                    | 24         | On superior median part of glans a gutter led to opening admitting stylet which could be maneuvered to the symphysis but no farther Normal urethra healthy   |  | Permanganate of potash injections to accessory urethra for gonorrhea                               |  |
| 1896        | LeFort, R                   | 21         | Small knob 2 cm from meatus with an opening on summit, from this on the median raphe a tiny cordlike structure palpable beneath skin on inferior surface of penis Cord appeared to end in the wall of urethra, to which it bent sharply at right angle Behind first opening was second knob with even smaller orifice Secretion from both orifices | Operation refused, greatly to regret of the author                     | For abscess and phimosis, no details (The hardness of the accessory canal was caused by gonorrhea) | This case appears to be unique in that it presented 2 openings to the accessory urethra which had no relation to the normal meatus or connection with normal urethra           |
| 1898        | Stinson, J C                | 17         | Glandulo-penile hypospadias Accessory orifice to left of normal meatus, $2\frac{1}{2}$ in long canal ending in a blind pouch   |  | Iodine and carbolic injections for gonorrhea   | Apparently first case reported in America  |
| 1898        | De Keersmaecker             | 18         | Opening on dorsum permitted insertion of No 14 bougie, which penetrated 6-7 cm., indicating accessory canal parallel to urethra ending at symphysis No urine or seminal fluid from it  |  | Permanganate of potash injections for acute gonorrhea  |  |
| 1900        | I oew, L                    | 28         | Smaller meatus above normal one Bougie penetrated $14\frac{1}{2}$ cm through upper canal but did not reach the bladder Urine and sperm from normal meatus only   |  | No mention of treatment Methylene blue injected into bladder for diagnostic aid                    | Uroscopy showed no opening in normal urethra's wall Instruments in two canals did not touch  |

| <i>Date</i> | <i>Author</i>       | <i>Age</i> | <i>Condition</i>  | <i>Operation</i>   | <i>Other Treatment</i>  | <i>Results and Remarks</i>  |
|-------------|---------------------|------------|---|--|---|---|
| 1902        | Dubot, E.           | 24         | Furrow on dorsum of penis led to opening in median line at reflection of penis admitted No 8 bougie which stopped at 1 1/2 cm. but filiform penetrated 9 cm. Canal apparently ended under the symphysis pubis   |  | Treatment for gonorrhea   |   |
| 1904        | Alevedi R.          | 63         | Opening at reflection of prepuce to canal running toward pubis No. 16 sound passed 7 1/2 cm. No connection with normal urethra  |  | Permanganate irrigations for nongonococcal discharge                                |   |
| 1908        | Heller J            | 23         | Partial diphallus no meatus on right side on left glans a normal meatus with hypospadiac opening below The canal leading from this had no connection with either urethra or bladder   |  | Treatment for gonorrhea   |   |
| 1910        | Hessel H            | 30         | Small opening on glans above normal meatus, leading to tiny canal 3.8 cm long running parallel with normal urethra but not communicating with it  | As infection persisted in accessory canal it was extirpated entirely         | Injection for gonococcal infection of both canals                                   | Method of removal not described mentions "local anesthesia"   |
| 1912        | Lenahan, W          | 24         | Thick membrane running from walls of urethra divided meatus into 2 openings lower ended in bladder, upper canal took No. 9 bougie only. Did not communicate with lower (normal) canal patient had never passed urine through it. Lower urethra infected with gonorrhea upper free |  | Gonorrhea of deep urethra treated   | Results not given although it is stated that the accessory urethra did not at any time become infected  |
| 1913        | Herman, J L.        | 24         | Accessory canal extended from opening just above normal meatus on glans to midpoint of root of penis diagonally—a thin tissue separating it from urethra. Passed down in front of symphysis and ended blindly   | Under cocaine anesthesia accessory canal opened over canula suprapubic drain | Repeated infections of normal canal from accessory canal were treated for gonorrhea | Patient first seen in 1909 Operation done July 1912 Disappeared before cystoscopic examination could be done  |
| 1913        | Fanti G             | 26         | Opening 2 mm. wide 3 cm. behind corona led to canal 7 cm. long ending blindly under symphysis. No communication with bladder or urethra   |  |   | Referred to surgical service for operation but at last minute refused. Collargol injection with x-ray confirmed findings  |
| 1913        | Lemartowicz, J T    | 28         | Node size of millet seed on lower surface of penis 2 cm. back of preputial fold. Pressure on this caused secretion to issue from tiny orifice under raphe. Ended cul-de-sac   | Abnormal canal extirpated Convalescence normal                               | Gonorrhea confined to accessory urethra no mention of other treatment               | One of the few instances of the accessory canal being on the under side of the penis  |
| 1913        | Worms, G            |            | External appearance of glans as usual, but normal meatus gave on cul-de-sac 4-5 mm deep Urine from hypospadiac opening 2 cm. behind Third opening in middle of frenum admitting only 5 stylet to a canal running 8 cm. to end blindly near spongy portion of normal urethra       |  | Treatment for gonorrhea of accessory canal  | Patient a young soldier no age Had never noticed the third orifice until the canal on which it opened became infected. In this case, also both abnormal openings were on under side of the penis                              |
| 1913        | Thompson-Walker J W |            |   |  |   | Case cited as a textbook example no clinical details Suggests laying tract open, destroying lining with cauterization (preferred because scarring is less) or laying open a tract directly above normal urethra with scissors |

| <i>Date</i> | <i>Author</i>                                     | <i>Age</i> | <i>Condition</i>  | <i>Operation</i>   | <i>Other Treatment</i>   | <i>Results and Remarks</i>   |
|-------------|---|------------|---|--|--|--|
| 1914        | Ferulano, G                                       | 51         | Abnormal opening on glans at reflection of prepuce. Bougie No 14 entered 8 cm. Another instrument placed in normal urethra did not meet the bougie and the secretion from the abnormal orifice contained no urinary elements  |  |  |  |
| 1914        | Ponozz, M   |            | Accessory opening above normal meatus, opening into canal 12 cm long, which did not communicate with normal urethra   |  | Treatment by injections of both canals for gonorrhea                               | Patient a "gentleman" age not given  |
| 1914        | Dufour and Jean, G                                | 22         | Orifice on corona on dorsal surface of glans, canal from it felt like cord running beneath the skin of penis. A bougie passed through it to pubic arch. No communication with bladder or urethra. Dissection showed that after lumen ended, the canal continued as a fibrous tract as far as Henle's ligament in the direction of the bladder | Cutaneous orifice freed and canal dissected out as one would a hernial sac         | Treatment of gonorrhea attempted but permanganate and silver nitrate had no effect |  |
| 1919        | Oudard and Jean, G                                | 19         | Small orifice on dorsum of penis, admitted a fine probe for 8 cm. No connection with any part of urinary tract  | Tract laid open and curetted under spinal anesthesia                               | Preoperative injections for gonorrhea ineffectual                                  | This accessory canal also extended as a fibrous cord to the prevesical tissues. Lined (as far as patent) with pavement epithelium                      |
| 1920        | Oudard and Esquier                                | 22         | Punctiform orifice at right of frenum in balanopreputial fold. Bougie passed beneath skin on right lower surface of the penis was halted in a cul de-sac at about 6 cm.   | Accessory urethra dissected out. (No connection with other parts of urinary tract) | Normal urethra treated for gonorrhea. No effect on accessory canal                 |  |
| 1924        | Lefevre, G  | 9          | Opening on dorsum of penis, so close to pubis it could only be seen by pulling penis down. Canal found to be 5 cm long on dissection although probe did not enter so far  | Tract dissected out and patient circumcised  |  | Patient came under observation because of ectopic testicle which was successfully operated upon  |
| 1930        | Strokov, F<br>Peterschski<br>B., and Schischov, L | 35         | Pinhead size opening $3\frac{1}{2}$ cm above normal meatus, from this a little gully $1\frac{1}{2}$ cm deep ran toward urethral orifice. X-ray showed passage 8 cm long running from accessory opening ending in a widening, like a diverticulum. It paralleled the urethra but did not join it anywhere                                      | Operation rejected by patient  |  | Nothing said about treatment. Authors interested only in roentgenologic aspects and give the only x rays of the condition in the series                |
| 1932        | Robertson<br>A L                                  |            | Opening was dorsal, proximal to coronary sulcus   | Tract split open, edges sutured  | Irrigations for gonorrhea. A relapse was treated surgically                        |  |
| 1935        | Lowsley, O S                                      | 27         | Small orifice on upper part of glans, discharged pus which showed gonococci. Probe passed to penoscrotal junction   | Accessory tract dissected out under spinal anesthesia                              | Preoperative treatment of gonorrhea of no avail                                    | Gonorrhea cured by removal of tract  |
| 1935        | Lowsley, O S                                      | 49         | Meatus of accessory urethra at top of glans penis about $1\frac{1}{2}$ cm from normal meatus. Canal extended backward and downward for 4 cm   |  | Nothing done to accessory urethra as it had never caused him any trouble           | Patient treated for stone in ureter, which was removed from the bladder with the Lowsley rongeur. Accessory canal, in this case discovered by accident |

## References

1. Aleotti E. and Bonabattola: Arch gén ed méd. 2: 2177 (1903)
2. Baillie Matthew: The Anatomy of the Human Body Ed 2 London 1797
3. De Keersmaecker Ann. et Bull. Soc. méd d'Anvers 16: 561 (1898)
4. Dufour and Jean G Cited by Oudard and Jean A. Duhot, E: Ann d mal d org génito-urin. 20: 77 (1920)
5. Ellenbogen Wien. med. Presse, pp 1894 1941 (1893)
6. Englich J (1) Wien med. Presse, No 27 p. 585 (1888) (2) Zentralbl f d Krankh. d. Harn-u. Sex-Org 6:169 (1895)
7. Fantl G: Folia urol. 8: 193 (1913)
8. Ferlano, G: Gior internaz. d. sc. med. 36: 353 (1914)
9. Frigorio, L. Rend. d. Roy Inst Lomarde 24: 487 (1891)
10. Frontz, W. A., and Deany W. L. Tr Am. A. Genito-Urin. Surgons 22: 257 (1929)
11. Heller, J. Ztschr f Urol 2: 612 (1906)
12. Hensel H Arch f Dermat. u Syph. 100: 313 (1910)
13. Herman, J L.: New York State J Med. 97: 919 (1913)
14. Leferre O Thèse de Paris, 1924
15. LeFort R.: Ann d mal d org génito-urin 14: 678 (1896)
16. Lejars: Ann. d. mal. d. org. génito-urin. 6: 392 (1888)
17. Lenartowicz, J T: Dermat. Wehnschr 56: 97 (1913)
18. Lenehan, W: Am. J Urol 8: 598 (1912)
19. Loew Leopold: Wien med Wehnschr 1: No 28, 1380 (1900)
20. Lowley, O S., and Kirwin T J: Text Book of Urology, p. 179 Philadelphia, Lea & Febiger, 1925.
21. Luschka: Virchow's Archiv 34: 592 (1863)
22. Luxardo E.: Gior internaz. d. sc. med., n.s. 4: 449 (1882)
23. Marchal Bull Acad. nat. d. méd. 17: 640 (1831)
24. Martin G Arch. d. méd. et pharm. mil. 25: 64 (1895)
25. McKay R. W. J Urol 22: 213 (Aug) 1929
26. Meisels, V. Pest. med.-chir. Presse 29: 585 (1893)
27. Nohl Arch. f. Dermat. u. Syph. 26: 434 (1895)
28. Oudard and Esquier: Cited by Oudard and Jean.
29. Oudard and Jean, G.: J Urol 11: 177 (1921)
30. Perkowski: Zentralbl. f. Chir. p. 816 (1883)
31. Picardat Thèse de Paris 1888.
32. Poncez, M.: Ztschr f Urol. 8: 559 (1914)
33. Posner C., and Schwyzer F: Berl. klin. Wehnschr No. 30 p. 844 (1893)
34. Pribram: Praeg. Viertelschr. 4. 44 (1867)
35. Robertson A. L. J Roy Army M. Corps 59: 145 (1932)
36. Stinson J C.: Pacific M J 41: 521 (1898)
37. Stockmann F Monatsb d. Krankh. d. Harn-u. Sex. Appar 2: 474 (1897)
38. Strokow F., Petaschewski, B., and Schischow L.: Urol. & Cutan. Rev. 34: 673 (1930)
39. Thompson-Walker J W: Diseases of the Genito-Urinary Organs, p. 571 London, 1914
40. Verneuil Arch. gén. de méd 1: 660 (1866)
41. von Dittel Wien med. Wehnschr 36: 395 (1899)
42. Worms G: J Urol. 4: 775 (1913)
43. Young, H H Urology I, p 78 Philadelphia W B Saunders Co., 1925

## MEDICAL FRIENDS OF WINE

Seventy-eight members of the medical profession of San Francisco have organized a society for an objective new to the United States—the study and appreciation of wine. The new organization is named The Society of Medical Friends of Wine, and officially began its existence with an inaugural dinner held at the St. Francis Yacht Club San Francisco on February 24.

It is described officially as follows

The object of the Society of Medical Friends of Wine is to stimulate scientific research on wine, develop an understanding of its beneficial effects, and encourage an appreciation of the

conviviality and good fellowship that are part of the relaxed and deliberate manner of living that follows its proper use.

While the society is new to America, says *California and Western Medicine* it follows a precedent set many years ago in France, where under the leadership of Dr Georges Portmann Professor of Medicine of the University of Bordeaux, members of the medical profession have a number of such societies. International congresses of European physicians interested in wine have been held under the title of Congrès International des Médecins amis du vin

## STORK SLOWING UP

The decline in the nation's birth rate was considered on April 7 by the New York Academy of Medicine, with figures revealing that present rates are 5 per cent below the rate required for population replacement.

"To maintain our present population would require something over 26 children per married woman," Frederick Osborn anthropologist of the American Museum of Natural History told the Academy

"Taking into consideration the number of sterile marriages, we find that couples capable of having children must average over three children

to provide replacement, Mr Osborn said Jewish families he declared are 50 per cent short of having enough children to replace their number in the next generation. He attributed this to concentration of the Jewish race in metropolitan centers with high educational standards.

Anglo-Saxons, because they are so numerous in the isolated rural sections of the South, are more than holding their own Osborn declared

"Mexicans and Indians the most isolated of our peoples are almost doubling their number in each generation."

# Public Health Notes

J ROSSLYN EARP, L R C P , Dr P H  
New York State Department of Health

## Conference of State Health Officers

THE state health officers met in Washington with the provincial health officers of Canada on April 21 and 22, and with the Surgeon General of the U S Public Health Service on April 24 and 25. Besides the customary review of scientific advance in the field of public health they were reminded of the peaceful conflict going on all over the world regarding the best method of providing medical care and of the danger of armed conflict in the international political arena.

Surgeon General Thomas Parran reviewed the progress made under the provisions of the Social Security Act and the Venereal Disease Control Act. "This year," he said, "approximately 525,000 new patients with syphilis will have been brought under treatment." This represents a 104 per cent increase over 1936. In the same time the number of clinics has increased from 713 to 1,773. The number of doses of arsphenamines distributed by state health departments has increased from 1,321,000 to an estimated 3,750,000. Since February, 1936, public-health training given wholly or in part under the Social Security program has been given to 3,820 persons. Another 1,000 are being trained in the present fiscal year. At present only seven states have official cancer-control programs. On the other hand dental units have increased from 12 to 35 in the state health departments. "An increasing number" of states are engaged in pneumonia control. Incomplete state reports indicate a "material lowering of pneumonia mortality in 1938."

"Prevention must always be the first job of public health," said Dr Parran, "but against much sickness, prophylaxis is imperfect. For those conditions that cannot be prevented, but which because of their prevalence and their cost to the

community are of public-health concern, prompt and good treatment is the only present approach." He urged the state health officers to be aware not only of the movement in Washington for national health legislation but also of the developments at home growing out of the vigorous popular interest in better health. He expressed a belief that good medical care cannot be made attainable to large numbers of the population without both an improved health organization and a greater measure of public subvention.

A real opportunity is afforded by the Wheeler-Lea amendment to control misleading advertisements of food, drugs, and cosmetics. The medical profession cannot be indifferent to this opportunity. The expenditures of the public on cosmetics, perfumes, and dentifrices are estimated at \$400,000,000, on proprietary medicines at \$500,000,000, and on various health "gadgets" and "health foods" at another \$100,000,000. Not all of this billion dollars is wasted but much of it is spent to purchase more or less serious trouble. A great advantage of enforcement through the Federal Trade Commission is that cases are heard not before a susceptible jury but before a trial examiner. It is the policy of the commission that hearings be held in the locality from which the product originates. Dr K E Miller, who has been assigned by the Public Health Service to aid the commission, appealed to state health officers to help him secure the necessary expert medical testimony in such cases. He made two other suggestions. The control by federal agency can extend only to goods shipped in interstate commerce. Patent medicine vendors can avoid the provisions of the federal law by setting up a sales organization that operates exclusively within

the state. They are especially tempted to operate in this way in a state like New York which has a large population. It is therefore important that state legislation be adopted in the same sense as the federal legislation. Dr. Miller also suggested an exchange of information between state laboratories, which analyze drugs and cosmetics, and the federal laboratory to avoid unnecessary duplication of effort.

Further work at the National Institute of Health on trichinosis has brought the number of human diaphragms examined postmortem up to 3,870 of which 630 (or 16.3 per cent) were positive. An investigation into the practice of feeding raw garbage to hogs showed that of 397

cities where this method of disposal is in use only 20 require that the garbage be cooked. A resolution was adopted recognizing the importance of controlling this source of infection.

A dramatic coincidence occurred on the morning of April 26 when Secretary of the Treasury Morgenthau, addressing the conference, referred to the report (confirmed later in the day) that an executive order of the President might remove the Public Health Service from the Department of the Treasury. He admitted that the provision of funds for the New Deal program was a full time job but said that wherever it went the Public Health Service would always have his interest.

#### FLEA LABORATORY BATTLES PLAGUE

On the hillside back of the University of California Hospital was opened in March completely without ceremony a little concrete building that might be called a monument to the flea reports the *San Francisco Examiner*.

It is a pretty grim monument, however for of all the thousands of fleas already dwelling in it and of all the hundreds of thousands that will enter it later not one will emerge alive.

The building is dedicated to the halting of the sylvatic plague.

The sylvatic plague is a blood cousin to the bubonic plague the dread 'black plague', which one time spread a blanket of death over a huge portion of the civilized world and even after the turn of this century claimed literally millions of lives in the Orient.

The bubonic plague, modern science has learned was spread by the flea, carried by rats. The sylvatic plague too is spread by fleas. In America, cases of infection have been rare but the percentage of mortality after infection is perilously high.

But to bulwark against the day when the plague might rise up and strike down thousands and to cut down the chances of that occurrence to the lowest possible fraction, medical science is making elaborate preparations.

With the opening of the Hooper Foundation's flea laboratory made possible by a \$24,000 gift of the Rosenberg Foundation for research, San Francisco is the scientific center of the world in point of sylvatic plague lore.

Within the two-story concrete building are dozens on dozens of cages, containing every form of rodent from every spot in Western United States where plague has been found among the animals.

From the fur of these animals the fleas are industriously combed deposited in covered jars and buckets and allowed to live freely until their day of doom arrives.

On that day the ill-fated flea is pulled from his habitat by a suction pump killed and placed on a slide under a microscope. There, scientists skilled in the ways and looks of fleas can tell at a glance whether their subject is a human flea, dog-and-cat flea, squirrel flea or guinea pig flea.

Then this flea with a crew of his huckless cronies, is mashed up and cooked into a serum which is injected into a guinea pig. If the guinea pig comes down with the plague, it is a scientific triumph for the experimenter by consulting his case history can tell which animal carried the flea and where he came from.

This procedure now in its infancy as applied to fleas and their host animals will go forward swiftly in this new ultramodern laboratory. The result will be that very shortly the Hooper Foundation scientists will be able to draw an accurate map of plague occurrence in the United States, point out precisely which agencies carry the disease, and take direct steps to eradicate the carriers.

# Medical News

## Health Vigil for the Millions of Fair Visitors

**T**HE New York City Department of Health has been busy during the last two years preparing to "throw every possible health safeguard" around the millions of visitors expected at the World's Fair, Dr John L Rice, health commissioner, writes in the May issue of *Neighborhood Health*, published by the health department.

These efforts have not been confined to the Fair grounds, but have been extended throughout the city, with attention concentrated on sanitation and food handling in hotels, restaurants, lodging houses, amusement places, transit lines, and buses, Dr Rice says

Under Dr John G Grimley, special deputy commissioner of health for the Fair, a branch office and laboratory of the department has been established on the grounds. The staff of thirty-six will include twenty-eight food inspectors, three sanitary inspectors, and an entomologist.

The department has laid twenty-six miles of waterpipe, a storm sewer of record capacity also twenty-six miles long, five and a half miles of sanitary sewer, and four miles of drain at the site. All of the 500 food and drink establishments at the Fair must have information on the source and condition of their supplies and have them ready for daily inspection. Food handlers at the Fair must pass a health examination every month.

In the magazine, Dr Grimley writes that utensils used for food must be washed with soap in water at least 100 degrees in temperature and rinsed for one minute in clear water at least 175 degrees in temperature.

Cooperating with the city health department, the Fair corporation has enrolled a medical staff to give first aid to the 40,000 persons expected to require it before the Fair is over. Dr J P Hoguet, medical director of the Fair, writes in *Neighborhood Health* that six first-aid stations have been set up, five motor

ambulances, one speedboat, and a streamlined x-ray truck have been acquired, and a corps of thirty physicians and forty nurses mobilized. All medical treatment on the grounds will be free.

One of the ambulances is equipped with special resuscitation devices to care for a patient suffering from asphyxiation on the way to a first-aid station, Dr Hoguet explains. The x-ray truck will be sent to a station in case of an accident involving fractures or internal injuries. Plates can be developed in the truck and handed to the doctor in five minutes.

With all these safeguards, Dr Rice expects the most prevalent ailment to be sore feet.

## County News

### Albany County

The Medical Society, County of Albany, was addressed on April 19 by Samuel Kleinberg, M D, F A C S, Attending Orthopedic Surgeon, Hospital for Joint Diseases, Lebanon Hospital, and Israel Zion Hospital, New York City, on "The Management of Structural Scoliosis."

### Bronx County

The program of the Bronx County Medical Society on April 19 included addresses on "Medical Service Plans," by Mr Frank Van Dyk, and on "Compulsory Health Insurance," by Dr Emil Koffler, Dr John B Schwedel, and Dr Samuel Kopetzky. Discussion was opened by Dr Theodore Sanders.

"One of our physicians recently engaged the services of a well-known agency to collect an outstanding bill of twenty-six dollars. After collecting the bill and deducting the service charge, the company forwarded the doctor a check for \$21 dollars in full payment of the account. We congratulate the doctor in that the

balance, small though it may have been, was in his favor. Very often the doctor finds that he is indebted to the collection agency after the latter has collected the bill"—*Bulletin*

The North Bronx Medical Society enjoyed a dinner dance entertainment at Ben Riley's Arrowhead Inn on May 7

Dr Julius Weiss, a Bronx general practitioner who also specialized in obstetrics and gynecology, died on April 11 in St. Luke's Hospital. Dr Weiss, who was a founder and President of the Medical Board of the Bronx Maternity and Woman's Hospital, had his home and office at 1000 Grand Concourse, the Bronx. He was sixty-three years old.

A native of Rumania, he came to New York as a child. He was graduated from Cornell University in 1899 with a B.S. degree and from the Long Island College Hospital in 1902 with an M.D. degree. After practicing on Manhattan's East Side, he moved to the Bronx in 1912 and thereafter practiced there.

He helped to found the Bronx Maternity and Woman's Hospital in 1915 and served as president of its medical board from then until his death. He was attending obstetrician and gynecologist at the hospital.

#### Broome County

Mayor Kress, of Binghamton, recently addressed a letter to Dr Charles L. Pope, President of the Broome County Medical Society, asking the society to have a committee "conduct a survey of the present medical welfare system and make recommendations for revisions and improvements." The executive committee of the society, however, decided that, in view of certain legislation pending at Albany, it would be unwise to make recommendations until the legislative situation is made clear.

#### Dutchess County

The Dutchess County Medical Society gave a dinner at the Nelson House in Poughkeepsie on April 12 in honor of

Dr Robert W. Andrews, who has practiced medicine there for over forty years and will move shortly to Texas. Mayor Spratt, counsel to the society, was one of the speakers.

The scientific program was given over to a discussion on "Some Thyroid Problems" by Dr John C. McClintock, of Albany.

#### Erie County

A plan for care of the medically indigent, providing for fees for physicians treating such persons in Buffalo, was unanimously approved by the Buffalo Health Board at its meeting on April 13. At present no payment is provided for such work in Buffalo.

The plan has been approved after about six months' study by the committee on medical care, made up of unofficial representatives of the Medical Society of the County of Erie, the Edward J. Meyer Memorial Hospital, University of Buffalo, Buffalo Health Department, Erie County Board of Social Welfare, Erie County Department of Social Welfare, Buffalo Hospital Association, and Comitia Minor of the Medical Society of the County of Erie.

Routine care would be provided for Buffalo's medically indigent under the direction of the department of social welfare through employment of private physicians on a fee basis. Patients would be allowed to choose their own physicians who would be authorized to charge \$2 each for home calls and \$25 for confinements, with a maximum charge of \$50 per month per patient, exclusive of confinements. No payment would be provided for office calls.

Seven authorities in medicine addressed the medical alumni of the University of Buffalo at their fifth annual spring clinical day and sixty-fourth anniversary banquet on April 22, in the Hotel Statler.

At the morning session, the speakers were Dr Elmore B. Tauber, Professor of Dermatology at the University of Cincinnati, on "The Dermatologist Looks at Medicine", Dr E. Perry McCullagh,



Director of the Department of Endocrinology and Metabolism at the Cleveland (Ohio) Clinic, on "Obesity", and Dr Harry E Mock, Associate Professor of Surgery at Northwestern University Medical School, and Dr John L Lindquist, Associate in Surgery at Northwestern, on "The Management of Acute Cranial-Cerebral Injuries"

The round-table discussion at 11 o'clock was held in four sections, as follows cardiovascular, Dr Clayton W Greene, pediatrics, Dr Douglas P Arnold, nose, throat, and ear, Dr John F Fairbairn, and gastrointestinal tract, Dr Abraham H Aaron

A luncheon and business meeting was held at 12 30 o'clock. At the afternoon session, starting at 2 30, the following spoke

Dr Edward H Dennen, Clinical Professor of Gynecology and Obstetrics at New York Polyclinic Medical School and Hospital, on "Choice of Instruments in Delivery with Forceps," with film demonstration, Dr Horton Casparis, Professor of Pediatrics at the Vanderbilt University Medical School, on "Practical Management of Behavior Problems in Children", and Dr David L Thompson, Professor of Biochemistry at McGill University, on "Endocrinology in Urology for the General Practitioner"

Following the annual dinner, scheduled for 7 o'clock, the General Electric Company's "House of Magic" demonstration was presented

Dr Carroll Julian Roberts, of Buffalo, a front-line fighter in the war on pneumonia, died of the disease in Edward J Meyer Memorial (City) Hospital on April 6

Clinical director of the hospital, Dr Roberts had pioneered in the use of sulfapyridine to combat pneumonia and had reported marked success. But the new drug was unable to save his own life

He entered the hospital on April 4, and his case was typed as No 1 pneumonia. He was given the appropriate serum and sulfapyridine therapy to no

avail. He died after many hours under an oxygen tent

"He had been working a week when he should have been in bed," said Dr Nelson W Strohm, also a prominent pneumonia worker. "He was a wonderful man and he knew an awful lot of medicine"

"He was intensely keen to cut down the pneumonia toll and he was particularly interested in the new drug, sulfapyridine. Just two weeks ago he read a paper to the medical union detailing 33 cases treated with sulfapyridine, 32 of which recovered"

### Franklin County

The spring meeting of the Franklin County Medical Association was held in Malone on April 12. Dinner was served at the Elks Club at 1 p m, and the scientific and business session was held in the nurses' classroom, Alice Hyde Hospital. Dr Robert S Macdonald, of Plattsburg, was the guest speaker, and the topic was "Endocrine Dysfunctions"—*Reported by Daisy H Van Dyke, M.D., Sec'y*

An interesting article in the Adirondack edition of the *Syracuse Post Standard* recalls that "Although the little logging settlement of Tupper Lake sprawled on the shores of Racquette pond had just mushroomed into existence a year or two earlier, and the incorporation of the village of Tupper Lake was not to come for more than a decade, Tupper's settlers decided the new town needed a board of health just forty-five years ago. Accordingly, the town board of Altamont, which had been set off from Waverly in 1890, met on April 6, 1894, and organized the first local board of health. Dr Eugene M Austin was appointed Tupper's first health officer—a post which he still holds today." Dr Austin is the present President of the Franklin County Medical Association

### Jefferson County

Sixteen health officers of Jefferson County attended the annual spring conference of county health officers at the

Black River Valley Club on April 13. The meeting preceded the regular monthly meeting of the Jefferson County Medical Society at the club.

The health officers discussed the annual spring campaign for administering toxoid to children to prevent diphtheria and smallpox.

Dr Stanley W Sayer, of Gouverneur, district state health officer, who presided, particularly stressed the necessity of children being vaccinated against small pox, emphasizing that the percentage of children so vaccinated has been dropping sharply.

Dr Frederick G Metzger, of Carthage, also discussed the campaign. Dr Metzger is chairman of the public-health committee of the medical society.

### Kings County

The Kings County Medical Society has decided to back the pending state bill giving the medical grievance committee of the state board of regents the right to discipline all doctors, it is announced by Dr Charles F Pabst.

However, Dr Pabst pointed out, the organization put the stamp of approval on the measure, known as the Coudert Steingut bill, with the reservation that the bill's definition of "unprofessional conduct" be redrawn to conform with that of the state medical society.

If the bill becomes a law it will bring under the disciplinary jurisdiction of the board of regents the 40 per cent of the practicing physicians here who are not members of the county and state medical societies. At present this group cannot be punished for violation of the code of ethics, it was said, while at the same time members of the various societies can be disciplined by the groups to which they belong. In March the county medical society went on record as disapproving of the Coudert-Steingut bill because of its definition of unprofessional conduct. At a meeting held later at the society's headquarters No 1313 Bedford Avenue the group reversed its stand providing the definition is amended to conform

with that adopted by the state medical society in 1931.

Passage of the bill will help prevent the lowering of the standards of medical practice in this state and will give the board of regents medical grievance committee blanket power to punish all physicians who violate the code of ethics, it was said.

The scientific program of the Medical Society of the County of Kings on April 18 included papers on "Experimental Aspects of Carcinogenic Substances," by Murray J Shear, Ph D, and on "The Implications, Implied and Expressed, of Tumor Grading," by Dr Stanley P Reimann.

The Friday afternoon lectures at the MacNaughton Auditorium included April 14—"Diagnostic and Therapeutic Aspects of Splenic Enlargement," by Dr Harry M Greenwald, April 21—"Recent Advances in the Diagnosis and Treatment of the Diseases of the Liver," by Dr Carl H Greene, April 28—"Colitis, Its Diagnosis and Treatment," by Dr Joseph Felsen. May 5—"Poliomyelitis: Diagnostic Aspects and Evaluation of Preventive and Therapeutic Procedures," by Dr Sidney D Kramer, and May 12—"Office Procedures in Gynecology for the General Practitioner," by Dr Horace E Ayers.

Dr George F Cahill, Attending Urologist at the Presbyterian Hospital in Manhattan, discussed the diagnosis of renal tumors at a meeting on April 10 of the Williamsburg Medical Society in the Leon Louria Memorial Auditorium of Jewish Hospital, St. Mark's and Classon Avenue. Dr Irwin E Siris president of the society, presided.

The program of the Brooklyn Thoracic Society on April 21 included papers on "The Modern Problems in the Diagnosis of Early Pulmonary Tuberculosis," by Dr Edgar Mayer and on "The Operation of Extra Plural Pneumothorax," by Dr Paul Geary.

The Ocean Medical Society on April 17 listened to addresses on the following

topics "Angina Pectoris as a Predominating Symptom in Spontaneous Hypoglycemia," by Dr Joseph Weinstein, of Brooklyn, "Problems in the Management of Children with Heart Diseases," by Dr Irving R Roth, of Manhattan, "Treatment of Heart Failure," by Dr Arthur C De Graff, of Manhattan, and "Trauma and Effort as a Cause of Coronary Thrombosis," by Dr Ernst P Boas, of Manhattan

### Monroe County

The fight against infectious disease, described as "man's most unrelenting enemy," was discussed by Dr George D Berry, Professor of Bacteriology at the University of Rochester School of Medicine, in an illustrated lecture on April 16 in the Rochester Academy of Medicine

He told the dramatic story of efforts to control smallpox, diphtheria, typhoid fever, and other infectious diseases that have menaced mankind for centuries Dr Arthur M Johnson, city health officer, was one of the speakers on the program, which was planned by Dr Sol C Davidson

### Nassau County

The Nassau County Medical Society, at its meeting on April 18, listened to an address by Dr Franklin M Hanger, of the Presbyterian Hospital, New York, on "Laboratory Aids in the Diagnosis of Liver Disease"

### New York County

The meeting of the Medical Society of the County of New York on April 17 was devoted to a symposium on "Automobile Accidents Their Prevention and Treatment," with the following addresses 1 "What the New York City Police Department Is Doing to Reduce Street Accidents," by John J Seery, First Deputy Police Commissioner, New York City, by invitation 2 "Saving the Pedestrian," by Carroll E Mealey, Commissioner, Bureau of Motor Vehicles, New York State, by invitation 3 "Medical Control of Motor Vehicle

Drivers," by Dr David J Kaliski 4 "Eye Factors in the Prevention of Motor Vehicle Accidents," by Dr Conrad Berens 5 "Factors in the Treatment of Automobile Accidents," by Dr John J Moorhead Discussion was by Dr Charles J Dillon

Five noted scientists who have passed the age of sixty-five will withdraw before the end of the year from active connection with the Rockefeller Institute for Medical Research under a mandatory age-retirement regulation now being applied for the first time

A spokesman for the institute explained that all will be pensioned and that laboratory facilities will be placed at their disposal for independent research, but that their routine duties will be performed by younger men

Retiring are Dr Alexis Carrel and Dr Karl Landsteiner, both Nobel Prize winners, Dr Phoebus A Levine, chemist, and Dr Winthrop J V Osterhout, physiologist The institute disclosed that Dr Florence Rena Sabin, famous woman anatomist, withdrew several months ago when she reached the age of sixty-seven

Sir Alfred Webb-Johnson, C B E, D S O, M B, F R C S, (England), Hon F A C S, spoke on "The History of Surgery in England," (with lantern slides) on Wednesday, April 26, in the Blumenthal Auditorium of The Mount Sinai Hospital, New York City

### Niagara County

Problems common to lawyers and physicians were discussed at a "medico-legal forum" held by the Niagara Falls Bar Association and the Medical Society of the County of Niagara on April 12 at the Hotel Niagara at Niagara Falls

A joint meeting of lawyers and physicians had not been held in the county for two years Jointly presiding were William H Hunt, president of the bar association, and Dr Harley U Cramer, of Lockport, president of the medical society

Speakers included Dr Ernest M G Rieger and Dr Richard H Sherwood, of Niagara Falls, and Dr Forrest W Barry, of Lockport, representing the physicians, and Francis T Findlay, Earl W Brydges, and Salem G Mansour, all of Niagara Falls, representing the lawyers

### Onondaga County

A special committee of nine physicians who will work out a program of voluntary nonprofit health insurance was elected on April 4 at a meeting of the Onondaga County Medical Society at the College of Medicine, Syracuse University

Selected from a panel of twenty names submitted by the comitia minor, they are Dr Donald S Childs, Dr Leo E Gibson, Dr Gordon D Hoople, Dr Albert G Swift, Dr Leon E Sutton, Dr Brooks W McCuen, Dr Albert A Getman, Dr E C Reifenshtein, Sr, and Dr Brewster C Doust.

Dr Louis C Kress, Assistant Director of the State Institute for Study of Malignant Diseases, told members that two reasons keep lay persons from consulting a doctor when they have cancer. Either they don't have pain, or they don't want to be told that they have cancer, he declared.

Dr Kress discussed the scope of the family doctor in the war on cancer, and the plans of the state in aiding the campaign.

He stressed the fact that the general practitioner is the one who can be of the greatest service, and should be given assistance in making the diagnosis by specialists who may later be at his command.

He stressed that when diagnosis of cancer is made, the condition should be treated as an emergency, as is acute appendicitis and other diseases

Doctors can help stamp out the cancer quack by visiting the hopeless cancer cases and giving a word of comfort, he declared. Different types of cancer respond to different treatment, such as surgery x ray, or radium, sometimes, too depending on the location.

### Queens County

The Medical Society of the County of Queens, on April 18, heard a paper on "The Use of the Free Full Thickness Dissected Skin Graft," by Dr J Eastman Sheehan, Professor of Plastic Surgery at New York Polyclinic Medical School and Hospital, Fellow Royal Society of Medicine, London, Professor Delade Academia Desanid Sanidad Militia Spain. It was discussed by Dr Arthur J Barsky, Assistant Plastic Surgeon, Polyclinic, Associate, Reconstruction, etc. and Dr George Sammis, Plastic Surgeon, Queens General Hospital

Friday afternoon talks at 4 30 at the county society building, 112-25 Queens Boulevard, Forest Hills

April 21—"Sacroiliac Disease," by Dr Charles D Napier, F.A.C.S., Chief Orthopedic Surgeon, St. Giles Hospital, Consulting Orthopedic Surgeon, Long Island College Hospital

May 5—"Abnormal Bleeding in Females," by Dr Thurston S Welton, F.A.C.S., Obstetrician, Gynecologist, Greenpoint and Long Island College Hospitals

May 19—"Symptoms and Diagnosis of Diabetes," by Dr Charles M Levin, and "Treatment of Diabetes," by Dr Miller A Sanders

An open meeting of the Queensboro Surgical Society was held on Wednesday evening, April 19, at the medical society building. The speaker of the evening was Dr James A Cahill, Jr, Professor of Surgery at Georgetown University, Washington, D C. His subject was "Trauma of the Abdomen and Chest."

### Richmond County

The Richmond County Medical Society held its annual dinner at Marconi's Hotel, Mill Road, New Dorp, on April 12

Guests of honor were Dr Aaron Hood Thomasson and Dr Michael F O Shea. The society paid tribute to these men for their more than forty years in the profession.

### Steuben County

The annual banquet of the Hornell Medical and Surgical Association was held at the Hornell Country Club with twenty-eight present, on April 12

Dr Glee W Cheesman, who leaves soon for California, was the honor guest

### Tompkins County

Dr Wilbur George Fish, a native of Tompkins County and one of Ithaca's oldest physicians, died at Memorial Hospital in Ithaca Wednesday morning, April 12, after a long illness. He was eighty years old

He was president of the Sixth District Branch of the state medical society, and was also president at one time of the Tompkins County Medical Society, of which he was later secretary and treasurer

### Warren and Washington Counties

Dr Arthur F Holding, Consulting Otolaryngologist of Memorial Hospital, Albany, stressed the importance of early diagnosis and treatment of cancer of the larynx at a joint meeting of the medical societies of Warren County and Washington County on April 12 in The Queensbury, at Glens Falls. More than seventy physicians of the two counties attended the meeting, which opened with medical and surgical motion pictures

Those who discussed Dr Holding's paper were Dr John M Griffin, Dr Clair A Buck, Dr Harold A Peck, and Dr Morris Maslon, of Glens Falls

Dr Edwin MacD Stanton, surgeon at Ellis Hospital, Schenectady, discussed legislative and economic problems with particular reference to proposals for compulsory health insurance. He said the

proposed \$850,000,000 health bill would add \$250,000 to the tax bill of Warren County

Dr Dwight M Sawyer, of Glens Falls, President of the Warren County Medical Society, and Dr William Nuzzo, of Hartford, President of the Washington County Medical Society, presided

### Wayne County

The regular meeting of the Wayne County Medical Society was held on April 4 at the Newark State School on the invitation of Dr Hiram G Hubbell, the superintendent

Before the meeting the members inspected the new x-ray equipment recently installed in the new hospital building. After the dinner meeting, Dr Rose R Donk reviewed a three-year survey of tuberculosis conducted at the school. Dr John C Hoeffler discussed congenital syphilis and presented several cases

The main part of the evening discussion was then taken up in the matter of hospital insurance

### Westchester County

More than 200 persons heard Dr Harrison S Martland, Chief Medical Examiner of Essex County, New Jersey, and an authority on automobile safety work, address the Mount Vernon Medical Society in the Knolls April 13

Dr Martland, introduced by Health Commissioner T A Jost, president of the society, told of interesting cases from the files of his office, and strange stories of accidents and murders

Members of the Kiwanis, Rotary, and the Lions clubs, and the police department were present

## Deaths of New York State Physicians

| Name               | Age | Medical School           | Date of Death | Residence        |
|--------------------|-----|--------------------------|---------------|------------------|
| Wilbur G Fish      | 80  | Cleveland                | April 12      | Ithaca           |
| Charles H Goodrich | 66  | P and S                  | May 6         | Brooklyn         |
| Charles C Mullin   | 67  | Syracuse                 | April 16      | Syracuse         |
| Carroll J Roberts  | 59  | Buffalo, U of Pa, Berlin | April 6       | Buffalo          |
| William C Thro     | 64  | Cornell                  | April 6       | Long Island City |
| Julius Weiss       | 63  | L I C                    | April 11      | Bronx            |

# Hospital News

## To Isolate Pneumonia Patients

**I**SOLATION of all cases of pneumococcic pneumonia is advocated by Dr. Julien E. Benjamin, Dr. James M. Rueggsegger, and Fanny A. Senior, Cincinnati, in their article, "Cross Infection in Pneumococcic Pneumonia," in *The Journal of the American Medical Association* for March 25.

Although the disease has long been classed as contagious, the authors say, it is rarely reportable. The general failure to segregate or isolate patients with pneumonia implies that its contagiousness has been underestimated.

"It is essential that each patient be segregated in a cubicle and not treated in the open ward, the authors maintain. "Physicians and nurses should be required to observe the same precautions in caring for such patients as are usual in contagious disease wards.

"The wearing of gowns and masks and the washing of hands after each examination or treatment should be strictly enforced. Visitors should likewise be protected. Since these regulations have been adopted at the Cincinnati General Hospital, we have been convinced of their merits."

In support of their statements, the authors cite several instances of cross infection.

"There is abundant evidence that hospital contacts are frequently infected

from pneumonia sufferers. It has been shown that about 2 per cent of the hospital contacts contracted the same pneumococcic disease. This of itself would justify segregation of infected persons. Fifteen patients, treated in the medical wards of the Cincinnati General Hospital in two years, definitely contracted the disease from other patients in the same ward who had the same types of pneumonia.

'The following winter, after rigid precautions had been enforced only two patients had pneumonia which could be attributed to cross infection."

A case of a doctor who contracted pneumonia from a patient is cited and also two cases of infection contracted by laboratory workers.

About 20 per cent of the immediate family contacts with a pneumonia patient treated at home harbor the same strain of pneumococci in the nasopharynx," the three authors state. "The disease actually develops in a certain number of these carriers.

They conclude that "each patient with pneumonia should be regarded as a focus for the spread of the infection. The care of each patient should include those measures which have been found serviceable in the treatment of other communicable diseases."

## Nurses Call New Bill Unfair

Vigorous opposition to the proposed amendment to the state education law in relation to nursing, which would provide for licensing an additional group of persons to be known as "child's nurse," is voiced by nearly 18,000 nurses as members of the New York State Nurses Association through their president, Mrs. Ethel G. Prince. "The amendment might have serious results because care

of sick children involves a great deal of skill and knowledge," Mrs. Prince said.

The new amendment, in the form of a bill, has been introduced to the Senate by Senator Walter J. Mahoney, and in the Assembly by Assemblyman Anthony J. Canney.

The nurses label the proposed legislation as 'unfair to young women who give fifteen months or more of service to an

institution and, when they leave, find that their practice is definitely limited to special types of cases rather than general practice of nursing" It would provide for a new nursing group known as "child's nurse" to care not only for well babies but also sick babies and maternity cases under the direction of a licensed physician It would be much better for students to spend a few more months in training in an approved school of nursing where they would be prepared to care for all types of cases Children may suffer from many kinds of ailments, including medical and surgical conditions, communicable diseases, and orthopedic defects A maternity hospital or infants' home could not possibly give students experience in all these conditions

Mrs Prince also stated "The title, 'Child's Nurse' is misleading According to the definition found in the bill such a nurse would be permitted to care for maternity cases and the name signifies

that her field is limited to the care of children If such a bill should pass, other institutions caring for special types of cases such as tuberculosis, mental or nervous diseases, would later seek similar legislation in order that they too may conduct courses and have student nurses to care for their patients It would be difficult for the public to differentiate between a registered professional nurse, practical nurse, child's nurse and perhaps tuberculosis, psychiatric, and other nurses The first two groups are trained in general hospitals and some have affiliations in special hospitals and can give satisfactory care to special cases

"Because of the confusion to the public of additional classifications for nurses and because it is felt that the present nurse-practice law gives the public the necessary protection through ample provision for classification and training of nurses, the association is definitely opposed to this bill"

## Newsy Notes

### SYRACUSE HOSPITALS BADLY OVERCROWDED

A warning that the difficulty of getting patients into the crowded hospitals of Syracuse has become a serious public menace is sounded in the leading editorial of the *Bulletin* of the Onondaga County Medical Society It says

"Many bitter complaints are being registered by the physicians of Syracuse and Onondaga County because of the frequent inability to get patients who are emergently ill into a hospital in Syracuse Something is wrong, and what that something is needs to be discovered and rectified Is it possible that patients are staying in hospitals longer than they formerly did, partly because of insurance which allows them a liberal stay? Or, are we actually in need of more hospital beds in Syracuse?

"Two of our largest hospitals have frequently been unable to admit man, woman, or child on certain days, even though the emergent condition was fully

explained There seems to be no letup in this state of affairs The solution therefore would seem to be a shortening of length of stay of the individual in the hospital or an addition to the number of hospital beds in Syracuse. The best answer might be the building of an addition to one of our teaching hospitals which would care for ward patients This would release a large number of beds for the use of private patients The people of Syracuse should give some thought to this matter, for it is they who are likely to be mostly concerned The matter has gone far beyond one of mere academic interest"

. . .

The walls of the upper floors of the new Triborough Hospital at Jamaica will be made of clear glass, to provide a maximum of sunlight

. .

New York City hospitals had the first ambulance in the world, were the first to use cocaine, performed the first blood transfusion, prepared the first nursing text, and established the first medical laboratory, the first school for nurses, and the first school for midwives. These facts will be brought home to the visitor in the exhibit of the Department of Hospitals in the City Building at the big Fair.

A Catholic men's guild has been formed in Auburn to aid in financing the expenses of Mercy Hospital.

Endorsement by the Hospital Council of Greater New York of the \$2,967,000 construction program of Roosevelt Hospital was announced on April 2.

David H. McAlpin Pyle, chairman of the council, declared in a letter to Thomas S. McLane, president of the hospital's board, that the institution's plan to replace several old structures with modern buildings should serve as a "necessary and important contribution to the needs of West Side Manhattan."

"The hospital council considers the Roosevelt Hospital one of the essential voluntary hospital units in the area

where it is located,' the letter said. "The generosity and quality of its services to the West Side community, the integrity of its board of trustees, and the standing of its medical staff have long been appreciated by those agencies which concern themselves with the development and maintenance of good hospital facilities."

Agreement on hospital rates, which compensation insurance companies will pay for the care of injured workmen, has been reached after a conference between representatives of the Hospital Association of New York State, compensation insurance carriers, and state officials.

Miss Frieda S. Miller, State Industrial Commissioner, and Louis H. Pink, State Superintendent of Insurance, have concurred in the rates, which will be in effect until Jan. 1, 1940. The rates are \$5.25 a day for New York City and the counties of Nassau, Suffolk, and Westchester, \$5 a day for the counties of Dutchess, Orange, Rockland, Putnam, Albany, and the cities of Schenectady and Troy, and \$4.50 a day for the remainder of the state.

Payments are to be made every thirty days and procedure for arbitration has been provided. All but 5 of the 267 participating hospitals were in full accord with the agreement.

### Improvements

A modern, four-story, fireproofed hospital will rise this year to replace the present wooden buildings of the Nassau Hospital, Mineola, it is announced by the directors.

It is expected that the cost will exceed \$500,000 and will, when completed, make the Nassau Hospital an institution costing more than \$1,000,000.

Plans are being made to provide at least 250 beds in the new hospital, an increase of 58 more than the present maximum of 192.

The Nassau Hospital is the fourth in that region to consider launching a building program in recent months.

Others have been the Mercy Hospital at Hempstead, South Nassau Communities Hospital at Oceanside, and the Meadowbrook Hospital. The Meadowbrook plans have merely been under consideration while the Mercy and South Nassau institutions are actually proceeding with their development programs.

It is stated that funds will be available for the building program without necessitating any public drive or campaign.

The erection of an addition to the Henry Heywood Memorial Hospital in North Tonawanda will be a necessity in



the near future, according to the annual report of the trustees at the yearly business meeting

. . .

Possibility of reducing relief hospitalization costs in Elmira by building a municipal hospital is being studied by city officials and a group of Elmira business and professional men

The plan is in a formative stage and no decision has been reached. The hospital would be built as a WPA project and would house 50 to 75 beds

Under the plan, all relief hospital cases, falling in the medical category would be treated at the municipal hospital. Surgical cases would not be included at the beginning

The institution might also serve as an emergency hospital for Southside factories

City Manager Klebes said that the municipal hospital plan had been suggested to him by a number of citizens

"The city is reducing other forms of relief and there must be a reduction in hospitalization," said the manager. "A municipal hospital may be the answer"

.

In furtherance of his efforts of the past two years to secure a general surgical veterans' hospital for the 29th New York District, and especially in Washington or Saratoga counties, Representative E Harold Cluett has given Gen Frank T Hines, Veterans' Administration Chief,

new data to support the claims of these regions

The latest move on the part of the congressman followed action taken by the various legion posts of Washington and Saratoga counties who have for some time been stressing the fact that the Hudson River or east central section of New York State is without a general surgical hospital, despite the fact that it has perhaps more veterans on a population basis than any other section of New York State that is not now serviced by a nearby hospital

New York counties in the proposed new hospital area are Rensselaer, Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Montgomery, Oneida, Oswego, Otsego, Saratoga, Schenectady, Schoharie, St Lawrence, Warren, and Washington, and in Vermont Addison, Bennington, Chittenden, Franklin, and Rutland counties

. .

The latest and most effective x-ray equipment has been installed at the Fox Memorial Hospital in Oneonta at an expenditure in excess of \$10,000

The x-ray section has been remodeled and completely renovated under the direction of Dr L S House, roentgenologist at the hospital

The new equipment includes besides the general unit a portable machine that may be moved to any bed in the hospital for fluoroscopic or radiographic examinations

## At the Helm

These hospital officials have been chosen

Henry F Howe, to be President of the Henry Heywood Memorial Hospital at North Tonawanda, re-elected

Arthur L James, to be President of Flushing Hospital and Dispensary, re-elected

Edward Neimeth, to be President of the Beth Moses Hospital, in Brooklyn

Dr Chrisman G Scherf, to be medical superintendent of the new hospital on Welfare Island, New York City

Abraham S Singer, to be President of the Jewish Sanitarium and Hospital for Chronic Diseases, in Brooklyn

# Medicolegal

LORENZ J. BROSMAN Esq.

Counsel Medical Society of the State of New York

## Malpractice—Bad Result Not Proof of Negligence

A FEW weeks ago the highest court of one of the western states handed down a decision that reaffirms a rule that has been previously the subject of these columns, namely, that in a malpractice action the mere fact that a bad result is obtained after treatment by a physician does not establish that he has been guilty of malpractice.\*

The plaintiff in the case, one A, had been operated upon by doctors B and C for the purpose of attempting to correct an instability of his left knee. The operation was performed by Dr. B assisted by Dr. C, who participated to the extent of using retractors and the like. It consisted of the repair of the exterior lateral and posterior crucial ligaments, which had been torn and ruptured by a previous fall. The damaged portions of the ligaments were removed, and new material was substituted therefor which was obtained by the use of sections from the fascia lata and the biceps muscle of the left leg. The operation was, of course, performed under a general anesthetic.

After operation it was found that A began to suffer from a foot drop. He was unable to control lifting and sidewise movement of his foot, and complained of a numbness in an extensive area of the lower left leg. Physical examination by another physician indicated that the external peroneal nerve was severed near the knee.

A brought suit against both B and C to recover damages for personal injuries alleged to have been sustained as a result of their negligence in performing the operation. Upon the trial the plaintiff called, as his own witness, Dr. C who testified concerning the details of the operative procedure. He admitted that the peroneal nerve was in the operative

field and that ordinarily its position does not vary and stated that while the nerve can be isolated, such procedure is not ordinarily followed in the particular type of operation performed. He testified that he could not state positively whether he or Dr. B had severed the nerve, although he said he did not do any cutting in its precise neighborhood. Dr. C also stated that injury to the peroneal nerve is one of the difficult problems of surgery, and that it can be injured by "pulling on a blunt instrument alone and the problem as to whether or not that was true was our first problem after the operation."

When asked his opinion as to methods of protecting the nerve during the type of operation in question Dr. C answered that it should be retracted with its protective tissue, but explained that in doing so it might be stretched with temporary injury. He also said that although the peroneal nerve is not difficult to locate and identify, a surgeon might miss it and cause injury. He cited instances of such occurrences.

Among the defense witnesses were certain expert surgeons one of whom stated that in average surgical practice with the use of care and skill the peroneal nerve is cut in 5 per cent of operations such as was performed. Another surgeon put the proportion of severance in such cases at 8 or 9 per cent. The defense witnesses declared that standard technic permits leaving the nerve covered in its own protective tissue rather than exposing it, because exposure is likely to produce injury, and that proper conservative methods call for retracting the nerve with its tissues.

The testimony on behalf of the plaintiff amply supported the conclusion that the condition of the left foot and leg subsequent to operation was due to injury or severance of the peroneal nerve during

\* *Engelking v. Carlson* 88 Pac. 2nd 695

the operation. The defendants made no attempt to controvert such testimony.

The trial judge dismissed the action as to B (the assistant) at the close of the plaintiff's proof, and at the end of all of the evidence directed a verdict in favor of C.

The plaintiff appealed, claiming that he had established negligence under the doctrine of *res ipsa loquitur*. He argued that he was unconscious, that defendants were in charge of the operation, that the result he sustained does not ordinarily occur, and that in the absence of an explanation by the defendants he was entitled to a verdict based upon their negligence.

The Appellate Court, however, affirmed the judgments appealed from, saying in the opinion:

"If this were the rule (that asserted by appellant), as a practical proposition, no surgeon could ever operate without being an insurer of a medically satisfactory result. The medical testimony in this case shows without any contradiction whatever that although the severance of the peroneal nerve is something which ordinarily does not occur in operations such as that performed by Dr. C, yet even when the precautions prescribed by the approved technic are taken, there is a break of or injury to it in between 5 and 9 per cent of the cases. There is nothing startling about such evidence and it affords no basis for the recovery of damages against a surgeon. Probably in every operation there is some hazard which the medical profession recognizes and guards against but which is not always overcome. To say that the doctrine of *res ipsa loquitur* allows the recovery of dam-

ages in every case where an injury does not ordinarily occur, would place a burden upon the medical profession which the law has not heretofore laid upon it. Moreover, such a rule is not justified by either reason or authority. "The law has never held a physician or surgeon liable for every untoward result which may occur in medical practice. It requires only that he shall have the degree of learning and skill ordinarily possessed by physicians of good standing practicing in the same locality and that he shall use ordinary care and diligence in applying that learning and skill to the treatment of his patient. Whether he has done so in a particular case is a question for experts and can be established only by their testimony. And when the matter in issue is one within the knowledge of experts only, and is not within the common knowledge of laymen, the expert evidence is conclusive. Negligence on the part of a physician or surgeon will not be presumed, it must be affirmatively proved. On the contrary, in the absence of expert evidence, it will be presumed that a physician or surgeon exercised the ordinary care and skill required of him in treating his patient."

Here what was done lies outside of the layman's experience. Medical evidence is required to show not only what occurred but how and why it occurred. That evidence establishes beyond question not only that the peroneal nerve may be injured even where due care is used but that this unfortunate result invariably occurs in a limited number of cases. The doctrine of *res ipsa loquitur* is, therefore, entirely inapplicable and no malpractice has been proved."

#### THE DOCTORS ORCHESTRAL SOCIETY OF NEW YORK

The Doctor's Orchestra will give its *première* performance in Town Hall, New York City, on May 26 at 8 30 P M., with Ernest Schelling as guest artist. The proceeds will be donated to

the Physicians' Home and the Loan and Relief Fund of the County Medical Society of New York. Tickets are obtainable from Dr. William Spielberg, 235 East 22nd St., New York City.

# Across the Desk

## Medical Memories of the Old South

"WHEN Doctor Herbert come in de front doah, Ol'Man Pain step out de back doah," was what the colored folk thereabouts used to say, and the saying was adopted by the white people too. Dr. Herbert wore a beaver stovepipe hat, and his furrowed face was fringed with a wavy, brown beard so that he looked rather like the pictures of Abraham Lincoln. Like Lincoln, too, he was over six feet tall, but he had the mellow, soft voice of the southland.

His gentle tones were matched by his gentle nature, and it was his boast that he had never sued nor would he sue anyone for a bill. If all his bills had been paid, he would have been the richest man in town, but when he died all he owned, house, furniture, horses, carriages, every thing, were worth only \$2,500. But he was rich in what money cannot buy, the love of all who knew him, and his funeral was the largest the county had ever known. He was a pronounced atheist, but was at the same time 'the most Christlike of men.'

That is the picture of an old-time Virginia doctor, drawn by Dr. William E. Aughinbaugh in his book of reminiscences entitled *I Swear by Apollo*,\* which is being read a great deal just now.

### Mystery of Life Explained

It was Dr. Herbert's influence, in fact, that decided young Aughinbaugh to study medicine, but in a rather peculiar way. The boy was already convinced at the age of six that the old doctor was a true magician, a seer, and a wonder worker, but one day when Willie had been strangely kept out of the house for hours, the doctor came out and said in his soft voice: 'Well, Willie, I have just brought your mother a little sister for you to play with.'

'Where did you get her?' he asked solemnly, thus showing his scientific spirit getting an early start.

'Under a head of cabbage,' replied the doctor. 'A rabbit brought her there. As soon as he saw me, he ran away, and I took the little girl to your mother because I knew she wanted one as a companion for her boys.'

'Who brings boys?' pursued the relentless six year-old.

'Why, foxes bring little boys,' answered the physician, as he deftly avoided further questions by hurrying off to his buggy.

This decided little Willie to be a doctor, for 'surely anyone who could heal the sick, postpone visits from Charon, cut off legs, find babies, and be on speaking terms with rabbits and foxes, was worthy of emulation.'

So the young man went to medical school, some years later, in Washington D. C., and paid his way partly by working in a lawyer's office and partly by forming with four other students, the "Hippocratic Exhumation Corporation." "To speak precisely," he confesses frankly, 'we became nocturnal grave robbers—primarily to provide ourselves with funds for an education, secondarily to insure a steady supply of stiff.' The price was \$35 per. Thus the very bodies of those that medical science had failed to keep from the grave helped to educate future doctors to save others from going the same route.

A calf was the standard fee for bringing a baby into the world, the young Dr. Aughinbaugh found when he came back to his home town in Virginia, hung out his shingle, and put his announcement in the local paper. Sometimes, on coming home from a long trip over terrible roads, he would find two or three calves tied up in his yard, with notes pushed under his door to tell who the donors were. Other patients paid in grain for the three hungry

\* *I Swear by Apollo*. A Life of Medical Adventure by William E. Aughinbaugh. New York: Farrar and Rinehart.

horses, or in hams, chickens, eggs, or butter

### "Snuffing Out" Babies

We often hear of life being "snuffed out," but not of babies being "snuffed out." This is where our obstetric experts can learn something. One day the young Virginia doctor had a hurry call from a physician in the next county, and when he arrived on the scene he found the patient's room in wild disorder, the doctor disheveled, sweating, cursing, chewing tobacco, his face purple, and a broken obstetric forceps on a chair.

"I can't do a damn thing more," he exclaimed. "I can't get that baby. Will you take charge?"

Aughinbaugh's efforts were equally futile. What to do?

Then the colored servant girl spoke up.

"Please let me send for Aunt Jinny—you all know what she done for Miss Lucy when her baby stuck."

"Go get Aunt Jinny quick!" shouted both doctors together.

In a few minutes Aunt Jinny was there, looking for all the world like the portly mammy on the box on pancake flour.

"Have you all tried 'snuffin' it out?" she asked, her arms akimbo.

"Snuffing it out?" gasped the doctors.

"Yes, sah, snuffin' it out—dat's de only way."

"Go ahead, try anything," exclaimed the men of baffled medical science.

A pound package of snuff was brought, and Aunt Jinny called out "Stan' back, gennemen!" and threw a handful in the patient's face. Instantly there was an explosion of sneezes, coughs, and cries—and the weak voice of a newborn baby! A simple Negro woman had won out where two educated physicians had failed. "The snuff had relaxed the abdominal muscles, which we doctors had made tense."

Now will the next textbooks tell how to "snuff them out?"

### Old Man Taylor's Leg

In addition to Aunt Jinny there was Aunt Nancy, who lived down by the swamp and was reputed to be a voodoo doctor and a witch. She dealt in charms, potions, spells, love powders, and such, and her terms were cash on the nail. The colored population went to her first, and to the young M.D. when Nancy had failed or their money was used up. Aughinbaugh found it was a losing battle.

And the white folks had their home remedies and cures, too. The climax came when Old Man Taylor broke his leg. Aughinbaugh set it and put it in a "fracture box," only to have Taylor take "that damned coffin" off his leg and put on a mass of sowbelly and cabbage. The leg healed somehow with only a slight limp, and Taylor, in his frequent jags, would lambaste all doctors as fools, while the bystanders guffawed.

That was the last straw, and the young physician left to begin a series of medical experiences and adventures in many lands and to end in our own picturesque Greenwich Village in New York City.

The swelling stream of medical memoirs are coming better and better, richer and racier. They are crashing the best-seller lists. The doctors have the printing presses running nights, while the publishers' checks buy them shiny new cars and trips to the Riviera. Beyond a doubt hundreds of silver-haired, not to say baldheaded, M.D.'s are scanning their old casebooks and ledgers and wondering if "thar's gold in them thar bills" and the memories they recall.

"Every man has a book in him," they say. The craze for doctors' reminiscences may not last forever.

Get going! Good luck!

W S W

---

Training the baby as the book advises is a good idea. All you need is a different book for each baby—*Medical Record*

Without health life is not life, it is only a state of languor and suffering—an image of death—*Rabelais*

# AWARDS

## Scientific Exhibits

The Committee on Awards after careful study of the many excellent scientific exhibits at the recent Annual Meeting begs to report the following as its final opinion of the merits of individual exhibits classified in three appropriate groups

### GROUP I SCIENTIFIC RESEARCH

- First Award* William A. Groat, M D  
Stella M Zimmer, R.N  
Rachael E Field, M.A.  
College of Medicine Syracuse University and Hazard  
Memorial Laboratory Syracuse Memorial Hospital  
Syracuse  
Acute Basophilic Leukemia—Development of the Baso-  
phil
- Second Award* Henry D Niles, M.D  
Skin and Cancer Unit New York Post-Graduate Medical  
School and Hospital New York.  
Cutaneous Manifestations of the Diseases of the Blood  
Forming Organs
- Third Award* O W H Mitchell, M D  
College of Medicine Syracuse University Syracuse  
Incidence of Gas Bacillus Infection in New York State.

### GROUP II CLINICAL RESEARCH

- First Award* Benjamin Jablons, M.D  
Polyclinic Hospital and City Hospital New York  
Clinical Diagnosis and Treatment of Peripheral Vascular  
Disease.
- Second Award* Maurice L. Malins, M D  
Sydenham Hospital New York, and  
John C Ruddock, M D  
University of Southern California Los Angeles  
Peritoneoscopy
- Third Award* C. R. Straatsma, M.D  
New York Post-Graduate Medical School and Hospital and  
Manhattan Eye, Ear and Throat Hospital New York  
Plastic Surgery (of head neck and extremities)

### GROUP III CLINICAL INVESTIGATION

- First Award* C. O Davison, M D  
Vassar Brothers Hospital Poughkeepsie  
A Review of Special Positions in Roentgenographic Study  
of Bones and Joints
- Second Award* P A. Robin, M.D  
O C. Hudson, M.D  
C. A Hetteshelmer, M.D  
Nassau Hospital Hempstead  
Causalgic Backache
- Third Award* Harry J Brayton, M.D  
Antonio G Gandia, M D  
David I. Sidnam, M D  
Herbert R. Diao M D  
Onondaga Sanatorium Syracuse  
X Rays of Interesting Cases

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## RECEIVED

**The Vaginal Diaphragm Its Fitting and Use in Contraceptive Technique** By Lemon Clark, M D. Octavo of 107 pages, illustrated. St Louis, C V Mosby Co., 1939. Cloth, \$2.00.

**Clinical Gastroenterology** By Horace W Soper, M D. Quarto of 314 pages, illustrated. St Louis, C V Mosby Co., 1939. Cloth, \$6.00.

**Doctor, Here's Your Hat! The Autobiography of a Family Doctor** By Joseph A Jerger, M D. Octavo of 279 pages. New York, Prentice-Hall, Inc., 1939. Cloth, \$2.75.

**Clinical Biochemistry** By Abraham Cantarow, M D., and Max Trumper, Ph D. Second edition. Octavo of 666 pages. Philadelphia, W B Saunders Co., 1939. Cloth, \$6.00.

**Gonorrhea in the Male and Female A Book for Practitioners** By P S Pelouze, M D. Third edition. Octavo of 489 pages, illustrated. Philadelphia, W B Saunders Co., 1939. Cloth, \$6.00.

**Economical Administration of Health Insurance Benefits Part I "The Principle of Economy in the Administration of Health Benefits"** By Dr Walter Pryll. Octavo of 187 pages. Geneva, Switzerland, 1938. Paper.

**Medical Uses of Radium Summary of Reports from Research Centres for 1937** Privy Council, Medical Research Council. Octavo of 48 pages, illustrated. New York, British Library of Information, 1938. Paper, 30¢.

**Practical Dermatology and Syphilis** By Harry M Robinson, M D. Octavo of 397 pages, illustrated. Philadelphia, P Blakiston's Son & Co., 1939. Cloth, \$4.50.

**Emotions and Bodily Changes A Survey of Literature on Psychosomatic Interrelationships, 1910-1933** By H Flanders Dunbar, M D. Second edition. Octavo of 601 pages. New York, Columbia University Press, 1938. Cloth, \$5.00.

**English, German, French, Italian, Spanish Medical Vocabulary and Phrases** By Joseph S F Marie. Oblong 16mo of 358 pages. Philadelphia, P Blakiston's Son & Co., 1939. Cloth, \$3.00.

**The Natural History of Population.** By Raymond Pearl. Octavo of 416 pages. New York, Oxford University Press, 1939. Cloth, \$3.50.

**End-Results in the Treatment of Gastric Cancer An Analytic Study and Statistical Survey of Sixty Years of Surgical Treatment** By Edward M Livingston, M D., and George T Pack, M D. Quarto of 179 pages, illustrated. New York, Paul B Hoeber, Inc., 1939. Cloth, \$3.00.

**The Physiology of Exercise A Textbook for Students of Physical Education** By James H McCurdy, M D., and Leonard A Larson, B A. Third edition. Octavo of 349 pages. Philadelphia, Lea & Febiger, 1939. Cloth, \$3.75.

**The Circulation of the Brain and Spinal Cord. A Symposium on Blood Supply Volume XVIII of a Series of Research Publications of the Association for Research in Nervous and Mental Diseases** Octavo of 790 pages, illustrated. Baltimore, Williams & Wilkins Co., 1938. Cloth, \$10.00.

**Preclinical Medicine. Preclinical States and Prevention of Disease** By Malford W Thewlis, M D. Octavo of 223 pages. Baltimore, Williams & Wilkins Co., 1939. Cloth, \$3.00.

**Angina Pectoris Nerve Pathways, Physiology, Symptomatology, and Treatment.** By Heyman R Miller, M D. Octavo of 275 pages, illustrated. Baltimore, Williams & Wilkins Co., 1939. Cloth, \$3.25.

**Failure of the Circulation** By Tinsley R Harrison, M D. Second edition. Octavo of 502 pages, illustrated. Baltimore, Williams & Wilkins Co., 1939. Cloth, \$4.50.

**The Clinical Diagnosis of Swellings** By C E Corrigan, M D. Octavo of 313 pages, illustrated. Baltimore, Williams & Wilkins Co., 1939. Cloth, \$4.00.

**Manual of Toxicology** By Forrest R Davison, M B. Duodecimo of 241 pages. New York, Paul B Hoeber, Inc., 1939. Cloth, \$2.50.

**Medical Leaves, 1939 A Symposium on Jewish Medical Problems** Dr Abraham Levinson, Editor in Chief. Quarto of 196 pages. Chicago, Medical Leaves, Inc., 1939. Cloth.

**Pulmonary Tuberculosis in Adults and Children.** By James A Miller, M.D. and Arvid Wallgren M.D. Octavo of 193 pages illustrated. New York, Thomas Nelson & Sons 1939 Cloth \$3.50

**You Can't Eat That! A Manual and Recipe Book for Those Who Suffer Either Acutely or Mildly (and Perhaps Unconsciously) from Food Allergy** By Helen Morgan. Octavo of 330 pages. New York, Harcourt Brace and Co 1939 Cloth \$2.50

**Community Health Organization. A Manual of Administration and Procedure Primarily for Urban Areas.** Edited by Ira V Hiscock. Third edition. Octavo of 318 pages. New York

The Commonwealth Fund 1939 Cloth \$2.50

**The Wisdom of the Body** By Walter B Cannon M.D. Revised and enlarged edition. Octavo of 333 pages illustrated. New York W W Norton & Co 1939 Cloth \$3.50

**The Diabetic Life Its Control by Diet and Insulin** A Concise Practical Manual for Practitioners and Patients By R. D Lawrence M.D. Eleventh edition. Octavo of 246 pages. Philadelphia P Blakiston's Son & Co 1939 Cloth \$3.00

**Hypertension and Nephritis.** By Arthur M Fishberg M.D. Fourth edition. Octavo of 779 pages illustrated. Philadelphia Lea & Febiger 1939 Cloth \$7.50

## REVIEWED

**Alcohol in Moderation and Excess. A Study of the Effects of the Use of Alcohol on the Human System.** By J A Waddell, M.D. and H B Haag M.D. Octavo of 184 pages illustrated. Richmond, Virginia The William Byrd Press Inc. 1938 Cloth \$1

This small book was prepared in response to a resolution passed by the General Assembly of Virginia. The book is intended to serve as a guide for the State Board of Education in the selection of material in regard to alcohol to be taught in the public schools. As far as the reviewer knows, this is the first attempt made by any state to present an impartial evaluation of the effects of alcohol in the hope that its future citizens would benefit by the knowledge.

The authors are both professors of pharmacology. They have enlisted the aid of various members of the faculties of the medical schools of Virginia in the selection of their material.

The authors stress the effect of alcohol in moderation and excess on the various body systems such as the central nervous system, circulatory, urinary, etc. They also include an adequate introduction to the properties and manufacture of alcohol and alcoholic beverages.

Since the book is intended for laymen, especially for students below college age, an attempt has been made to be as non technical as possible and wherever medi-

cal or technical terms have been used a satisfactory explanation of them has been included. There are some drawings and statements to which one might take exception (i.e., delirium tremens is due to withdrawal of alcohol). But on the whole the book is well written, pithy, and will be found of service to all who desire to instruct the younger generation in the effects of alcohol on the body.

JOSEPH L ABRAMSON

**Diseases of the Ear, Nose and Throat.** By Francis L Lederer M.D. Quarto of 835 pages illustrated. Philadelphia, F A Davis Co 1938 Cloth \$10

In Dr Lederer's text we note a definite departure from the older type of book to which we have become accustomed. In practically every instance clinical presentations are correlated with anatomic, physiologic, and developmental data that bear directly upon the subject at hand. The didactic value of this departure is obvious. The accompanying illustrations are superb, both artistically and from a practical point of view, especially the schematic projections and composites, which convey graphically the third dimensional effect. The photographic plates are better than average, and the author's use of charts for quick comparative study is a helpful innovation. Dr Lederer reveals his preference of



European nomenclature in describing certain clinical entities not usually recognized in previously published American texts

Here, then, we have a complete, up-to-date text from the pen of an experienced and unbiased observer and teacher, which can be used to advantage by the student and practitioner, as well as the specialist

HARRY MEYERSBURG

*The Treatment of Fractures* By Charles L. Scudder, M D Eleventh edition Octavo of 1208 pages, illustrated Philadelphia, W B Saunders Co, 1938 Cloth, \$12

This is truthfully a revision of a previous edition There is an imposing list of new contributors on special subjects, a list that contains but one name from the contributors to the tenth edition The subtitle of the tenth edition, "With Notes upon a Few Common Dislocations" has been omitted and the only dislocation listed in the index is "Dislocations of Vertebral Column" The subject matter has been approached differently, the first 300 pages being devoted to the fundamental principles and pathology of fractures instead of the immediate consideration of special topics

If it be noted that the tenth edition is dated 1927, the eleventh, dated 1938, may be expected to show certain changes either in the treatment itself, or in the attitude toward these changes One will look for a more complete discussion of the operative treatment of fractures and the indications and advantages of skeleton traction—and the reader will not be disappointed There are six successive chapters, of about 100 pages, on the various aspects of operative treatment, which do not include the description of the application of these principles to special fractures

It is rather significant that the author has placed under (a), in the chapter devoted to the consideration of treatment of intracapsular fractures of the femur, "Steel internal fixation, the method to be used when possible" In his foreword, the author addresses himself to students

and practitioners, but it is felt that this book will have an appeal to all surgeons who include the care of fractures in their practice

J RAPHAEL

*The Principles and Practice of Medicine* Designed for the use of Practitioners and Students of Medicine By the late Sir William Osler, M D Revised by Henry A Christian Thirteenth edition Octavo of 1424 pages New York, D Appleton-Century Co, 1938 Cloth, \$9

A rich tradition enwraps this book

The first edition appeared in 1892 and was enthusiastically received Its therapeutics were outstandingly conservative, but the clinical views were sound and scientific, and the underlying pathology thoroughly presented

Six more editions by Osler, then three more with the assistance of Thomas McCrae The 10th, 11th, and 12th editions were kept on a high plane by McCrae, whose death followed in 1935

This, the 13th edition, is revised by Henry A Christian, of Harvard friend, teacher, and mentor to so many All changes and additions are his own, and thus the new edition carries on with high personal guidance.

The pneumonias open the book with fine thorough discussion Serum, sulfanilamide, caffeine, coramine, digitalis, and oxygen are evaluated The carping critic would suggest that the patient is not "kept out of doors" today and that atropine for pulmonary edema can hardly be "useful" and "probably do little or no good" at the same time (see page 32)

On focal infection (page 45), "the earlier belief in its great frequency and importance as an explanation of many subacute and chronic diseases now is on the wane many are skeptical of this relationship except in relatively few patients" Thus does sanity return to us

Twenty-two diseases are grouped as due to viruses among them are acute coryza, influenza, herpes zoster, measles, rubella, smallpox, chickenpox, and acute poliomyelitis This etiologic grouping,

now common in most textbooks, illustrates the advance made in the study of the causes of infectious diseases.

Diabetes is monographically handled in 20 pages, a broad grasp of the subject is evident, with discussion of the pituitary, adrenal, and thyroid influences on the pancreas. Hyperinsulinism is not overlooked.

"Catarrhal jaundice" still is preferred over "benign hepatitis" to the reviewer's regret (p 094).

Cancer of the colon is inadequately handled and indexed. Incidentally, the indexing on the whole can be improved. Diseases appear under 'A' as acute or 'C' as chronic, rather than under the disease name.

Paying his compliments to the many classifications of Bright's disease, the editor remarks that there is now more and more agreement as to the essential features, and that it is no longer difficult to interpret the terminology of the various classifications. Christian has always been very outspoken in regard to Bright's disease.

In 21 pages Bright's disease is thoroughly discussed. We quote a final paragraph of advice: 'In Chronic Bright's disease death is inevitable. With this in mind take care not to make the patient's last days unhappy, disturbed, and uncomfortable by reason of treatment, which at best scarce does more than prolong the days of discomfort.'

The discussion of anemia is excellent.

Chronic arthritis, as presented also in 10 pages, is still a mélange of two distinct diseases. It is to be hoped that in the next edition these very different diseases will be separately presented.

This edition is an old friend in new binding and format. Henry Christian is its able editor, stalwart, outspoken, emphatic. There is presented a great wealth of clinical fact, basic theory, and applied pathology. The editor's aphorisms give the volume zest and sweep.

The book will lie open on many desks.

FRANK BETHEL CROSS

**Clinical Roentgenology of the Digestive Tract.** By Maurice Feldman M D. Octavo of 1014 pages illustrated. Baltimore: William Wood & Company 1938. Cloth \$10.

This book is crammed with valuable information. It is the only volume of its kind in all English medical literature representing a lifetime of work and study into the many problems confronting us in the application of the x ray to clinical investigation of the digestive tract. The material is well written and the illustrations excellent. No library of individual, school, college, or hospital can be considered to be complete without a copy of this book on its shelves.

BENJAMIN M. BERNSTEIN

**Illustrations of Anatomy for Nurses.** By E. B. Jamieson M D. Octavo of 62 pages illustrated. Baltimore: William Wood & Company, 1938. Paper \$3.

This small volume comprising 62 full page plates illustrates regional anatomy of the human body. The plates are in color and were taken from illustrations of *Regional Anatomy* published in 1934. The B. N. A. nomenclature is used throughout. Each plate has each structure lined and named which makes it easy for identification and most excellent for the student. This should be an excellent supplement to any textbook of anatomy, and, although it is primarily printed for nurses, the clear-cut pictures make it an excellent adjunct for the student of anatomy. Dr. Jamieson's anatomic works are well known in this country and, we believe, those who are teaching anatomy to nurses will be highly pleased with this volume.

HERBERT T. WIKLE

**The Foot.** By Norman C. Lake M D. Second edition. Octavo of 366 pages illustrated. Baltimore: William Wood & Company 1938. Cloth, \$4.50.

The author gives a fairly accurate review of his own book in the first sentence of the preface to the second edition: "That it is too long that it is too short—that it is too scanty—that it is very complete."

The section on the evolution, development, and anatomy is too long and too complete for the general practitioner and too short and too scanty for the specialist and real student of the subject.

The sections on club foot, operations, and injuries of the foot are good as far as he goes, but far too scanty

However, the discussion of the so-called minor lesions is good, and for this alone the book is a valuable addition to the literature. It is particularly useful to the general practitioner, for whom it is highly recommended

JOSEPH B L'EPISCOPO

*Adventures in Respiration. Modes of Asphyxiation and Methods of Resuscitation.* By Yandell Henderson. Octavo of 316 pages. Baltimore, Williams & Wilkins Co., 1938. Cloth, \$3

This interesting volume can be read with profit by all physicians and many lay people as well. The discussion of the processes of oxidation is a refresher course useful to all members of the medical profession. The account of Dr Henderson's struggles and eventual success in bringing the subject of asphyxia to the foreground is extremely interesting. This applies particularly to his work in popularizing the use of carbon dioxide in anesthesia and asphyxia. He realizes the importance of asphyxia neonatorum, and presents the latest evidence regarding intrauterine respiration. While the space devoted to the resuscitation of the newborn seems inadequate to the reviewer, it is well worth careful consideration. When one has started reading this volume, the interest is held until the end.

ROBERT A WILSON

*Surgical Pathology.* By William Boyd, M D. Fourth edition. Octavo of 886 pages, illustrated. Philadelphia, W B Saunders Co., 1938. Cloth, \$10

In the presentation of his 4th edition of *Surgical Pathology*, William Boyd maintains the pace he has set by his previous books. The general excellence of the work is decidedly impressive. The

style is somewhat subdued, perhaps mellowed by the continued observation of an abundant material and the review of an enormous literature. As previously, the subject matter is well arranged, and clearly and concisely treated. Many new features have been added, and others modified to harmonize with the current trend of thought in surgical pathology.

An attempt has been made to interject a practical aspect. This is especially employed by the introduction of a chapter on the surgeon and the laboratory. The material is treated too briefly and superficially to be of any real value to either surgeon or pathologist. Indeed, it is a question whether it actually belongs to the field of pathology.

However, the book contains so many admirable features, that any criticism must fall short of detracting from its incomparable place in the practice of surgical pathology by both surgeon and pathologist. The illustrations are uniformly clear and illustrative. The color plates are excellent.

This reviewer looks forward to any future books or revisions of old editions of his works with pleasant anticipation. Certainly, this last product of his activities is a necessary adjunct to any medical man's literary armamentarium, no matter what his specialty may be.

MAX LEDERER

*Aids to Bacteriology.* By William Partridge, F I C. Sixth edition revised by H W Scott-Wilson, B M. 16mo of 300 pages. Baltimore, William Wood & Co., 1938. Cloth, \$1.50

This handy little volume deserves high praise. It is a brief yet comprehensive survey of the entire field of bacteriology brought up to date. The classification of the Society of American Bacteriologists is employed with few exceptions, so that the book may be read with ease by Americans. The very reasonable price will enable practitioners who have bought no bacteriology text since medical school days to bring their knowledge to date at low cost.

M H PLOTZ

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

JUNE 1 1939

NUMBER 11

---

## *Editorial*

---

### To Die of Improvements

Our mothers and fathers had a racy expression for the dangers of overzealous reform. When change came too fast and furiously and enthusiasm seemed likely to overrule common sense, they bethought themselves that it was no pleasanter 'to die of improvements' than any other way—and called a halt.

Today, unless the brakes are applied to ill considered tinkering with the structure of medical care, American medicine is in grave danger of "dying of improvements." The ambiguous Wagner National Health Bill opens the door to almost absolute control of public health methods by a small group of lay administrators. Instead of implementing specifically the accepted features of the National Health Program, it lays down a vague formula that can father as many abuses as beneficial services.

If the Wagner bill is adopted in its present form, the sick public too, may find itself dying of improvements. When it comes to helping the common man, the kindly senior Senator from New York believes that the sky's the limit as far as costs are concerned. Unfortunately, in the long run the common man must pay for the benefits extended to him. It will prove of little benefit to the public health to provide elaborate institutions for the prevention and treatment of problematical illness at the price of oppressive taxation entailing malnutrition and unsanitary housing for the small wage earner.

There are many desirable and necessary reforms to be made in our medical services but they must be effected gradually as part of a carefully considered, flexible program. We must not sacrifice the proved benefits of the present system for the theoretical advantages

of untried schemes Above all, we must encourage continued professional experimentation with various methods of distributing medical care, and refuse to freeze practice in the rigid, mediocre mold of compulsory insurance In other words, we must make every effort to improve short of that injudicious frenzy for change that is death to all improvement

### Threat to Health

The advertisement of laxatives over the radio has assumed disquieting proportions As its volume soars to new highs, its quality drops to ever lower levels

To hear the ecstatic descriptions of the taste, efficacy, and safety of numerous products ballyhooed over the air, one might think that the use of laxatives is normal and entirely harmless That this is far from the truth is demonstrated in an article appearing in a recent issue of the *Journal of the American Medical Association*

Among 1,000 adult cases of appendicitis occurring in Cleveland between 1931 and 1936, the death rate in the acute suppurative type jumped sharply over the preceding five years because of delayed surgery The authors of the report—Drs F R Kelly and R M Watkins—attribute the fatal delay in seeking surgery “to economic factors and use of home remedies, including laxatives ” In the 1925–1930 series of cases, 42 per cent tried laxatives prior to medical aid In the 1931–1936 series, this percentage jumped to 67

Dr Kelly and Dr Watkins point out that they are not alone in the serious view they take of the unsupervised use of laxatives for abdominal pain In a report on a series of 306 fatal cases of acute suppurative appendicitis, Dr J O Bower, of Philadelphia, observes that 147 had taken laxatives at the onset of pain The percentage is 91.6 in another series of 214 patients who died of acute diffuse peritonitis following appendicitis

This is only one, albeit an extremely serious, aspect of the unsupervised use of laxatives The development of normal eliminative habits is of primary importance to health, particularly in childhood To start a child on the laxative habit is a crime against nature Yet ten or twelve times a day the biggest and best radio stations permit advertisers to urge parents to give their children this or that wonderful cathartic One tastes like delicious candy, another works like a miracle, a third cements affectionate relations between mother and child No reason is too many or fallacious In all the arguments advanced there is an arrant deception in the implication that the use of laxatives is without harmful consequences

The laxative habit is one of the serious problems of American

public health education. There is little hope of breaking its grip until newspapers, magazines, and radio broadcasting stations develop enough social conscience to reject this type of advertising.

## Esophageal Carcinoma

Until such time when the actual cause of cancer will have been definitely established, radical surgical removal of the neoplasm together with its lymphatic tributaries constitutes the mainstay of all methods at our disposal for the treatment of this disease. Frequently the technical procedure necessary for the removal of the neoplasm is of such magnitude that physicians in general are loath to accept the proposed surgery as the treatment of choice, and other measures—surgical or otherwise—are resorted to, which are either inadequate or merely palliative. This is the status of the management of carcinoma of the thoracic esophagus at the present time. Even in the earliest cases, where difficulty in swallowing has been the complaint for but a short time, and where a positive diagnosis has been established by esophagoscopy and biopsy, radical removal of the growth by surgery is seldom undertaken. Radiotherapy alone, or coupled with a gastrostomy, are the means usually employed in treating this lesion.

That esophagectomy is seldom undertaken may be attributed to the technical difficulties which attend the operative procedure, the poor general condition of the patient, and, until the recent work of Garlock,<sup>1</sup> the prohibitive mortality rate which hitherto has been associated with the operation. His series of 6 esophagectomies, which comprise approximately one-third of all reported cases of surgical removal of esophageal cancer, has been accomplished with *only 1 operative mortality*. The technic described by Garlock, which is based on the pioneer work of Torek,<sup>2</sup> not only removes the malignancy of the thoracic esophagus, but subsequently permits the intake of food by the normal process of swallowing, in this manner preserving for the patient the *enjoyment* of eating. One of Garlock's cases, a schoolteacher aged fifty three, has remained well for over two years, has resumed her profession, and eats normally with no difficulty.

This exceptional progress in the treatment of esophageal cancer can be attributed to several factors. Of prime importance is the early detection of the lesion, and in this connection Garlock's admonition that "one should regard with great suspicion any change in the act of swallowing in a person past forty years of age" promises to the therapy for esophageal cancer the same success that has been achieved in the treatment of laryngeal carcinoma which followed

the warning of Chevalier Jackson on the importance of hoarseness as a symptom in the same age group. This must eventually lead to earlier esophagoscopy, and where a malignancy is manifest, careful preliminary preparation, an expertly administered anesthesia, painstaking attention to the operative technicalities and the post-operative care will result in a reduction of the mortality from carcinoma of this portion of the digestive tract

<sup>1</sup> Garlock, J. H. Surg., Gynec., and Obst. 66: 534 (1938) also *New International Clinics* Vol. 1 series 2, 29 (1939)

<sup>2</sup> Torek, F. Surg., Gynec., and Obst. 16: 614 (1913)

### Current Comment

"Modern medicine is, in fact, less than a hundred years old, but the social sciences are less than half of that. Assuming that they are in the experimental stage through which medical science has passed, valuable service to society may, in time, be expected of them. But that reasonable expectation is hardly warrant for delivering the body politic into the hands of even the most conscientious social-service practitioners"—Dr. J. B. Conant is credited with the foregoing statement

. . .

"Of course our brethren will whimper when they find themselves legislated out of the right for a decently remunerative private practice of medicine. Particularly loud will be the plaints of that great lethargic majority of every medical society who fail to vote on vital questions. Bagpipes at bedtime will sound as a lullaby in comparison to the injured squeaks that will be heard, and the cries of 'Why were we not warned? Why didn't someone do something? What is wrong with the medical society?' The answer will be that they were warned—many did many things—and that the only thing wrong with the medical society is that it is composed of so many torpid drones. The ballot is laid on the desk by the post office, and there it lies.

"The American doctor may be congenitally shy of politics, or may have no idea of the practical meaning of planned medicine, but it behooves him to cast aside his timidity and whatever stupidity

it is that prevents him from learning about his own business. The least he can do is to attend meetings where votes are to be taken or to fill out ballots and questionnaires that come to his desk." —From the *Pittsburgh Medical Bulletin* of April 29, 1939.

. . .

"The general public has little realization of the tremendous amount of effort expended annually by individual physicians and by organized medicine in combating pernicious legislative measures sponsored by misguided enthusiasts and by those with ulterior motives. There isn't a legislature in America which does not annually have bills presented for consideration which would, if enacted, destroy health protection. The opposition of medicine to such measures is based on its obligation to protect the public health, and to protect scientific and clinical investigation into the nature of disease.

"In its opposition to measures that threaten the public welfare, medicine employs no lobby. To accomplish its purpose, it must depend on the influence of enlightened public opinion. American facilities for medical care are unsurpassed but much remains to be accomplished before the ideals of medicine are realized. In their realization, society has obligations no less than those of medicine"—Dr. William H. Homes, of Northwestern University Medical School, brings home an important point

# THYROID DISORDERS VIII OPERABILITY OF THE HYPER- THYROID PATIENT AS INDICATED BY THE RESPONSES TO OPERATION

EMIL GOETSCH, M D , Brooklyn, New York

(From the Department of Surgery Long Island College Hospital and Long Island College of Medicine)

THE operability of patients with hyperthyroidism is naturally dependent upon their tolerance to operative procedures. This tolerance is, in general, dependent upon the clinical condition of the patient and the severity and duration of the hyperthyroidism. Hyperthyroid patients are well known to be highly sensitive to operation and in spite of all our methods of preoperative preparation and technical safeguards, an occasional postoperative crisis, which may prove fatal, is encountered. Our most useful criteria of operability have commonly been clinical data obtained from the history and examination and the basal metabolic rate. Unfortunately they have not been entirely reliable. Notwithstanding a most careful consideration of these criteria and the evaluation of the clinical data and the intensity of the hyperthyroidism, the surgeon is often surprised to find a brisk, unanticipated postoperative reaction. There is a fundamental hypersensitivity which cannot always be appreciated after our ordinary methods of examination and which is the primary factor in the operability of the hyperthyroid patient. Accordingly an attempt was made in the studies, to be reported, to evaluate this hypersensitivity and thus add another valuable criterion of operability to those that we have in the clinical data and the metabolic rate.

This hypersensitivity of the hyperthyroid patient is revealed in characteristic physiologic responses before, during, and after operation. These responses were subjected to detailed study in a large number of patients with goiter. A preliminary report of the results of this

study was made in 1934 (Goetsch and Ritzmann).<sup>1</sup> These results indicated that the responses to operation are precisely of the same character and degree as those that can be evoked by the administration of adrenalin in the same patient before operation. They are characterized by increased apprehension, vasomotor changes, tremor, and tachycardia, followed almost immediately after the beginning of operation or the subcutaneous injection of adrenalin, respectively, by a sharp rise of the systolic blood pressure, pulse pressure, pulse, and often of respirations. Simultaneously there is an increase in the total leukocyte count and a change in the differential count characterized by a mononucleosis and a fall in the polymorphonuclear count. There is also an increase in the blood sugar and the body temperature. These responses reach their maximum in about twenty minutes and thereupon in the average moderately toxic case gradually subside to the previous normal levels. It had long been known that patients with hyperthyroidism are unusually hypersensitive to adrenalin (Goetsch),<sup>2</sup> and it appears that the role of adrenalin is a most important factor in the hypersensitivity to operation. That this hypersensitivity is secondary to the stimulating influences of adrenalin upon the sympathetic nervous system, previously rendered hypersensitive by the excessive thyroid secretion, receives physiologic support from the experiments of Cannon,<sup>3,4</sup> who showed furthermore that fear, painful stimuli, and anesthesia, which are inherent in every major opera-



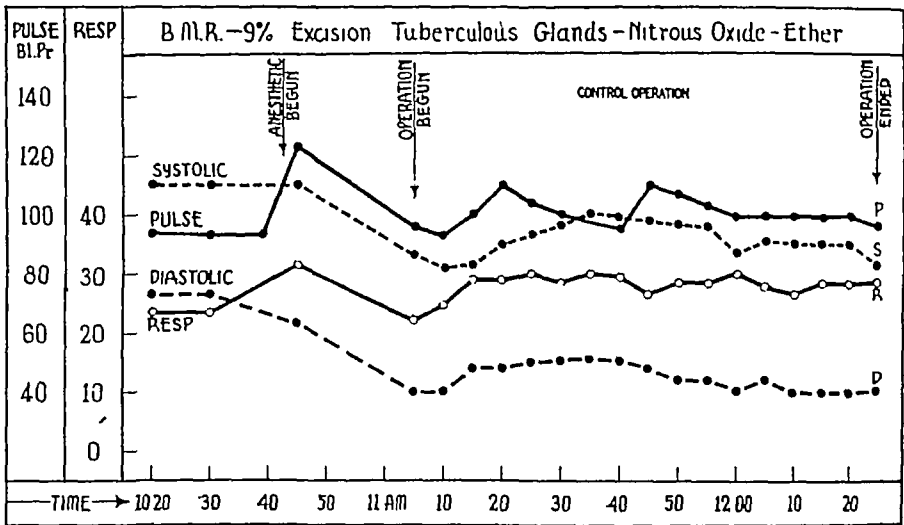


CHART 1 (CASE 1) Negative operative responses during excision of tuberculous cervical glands in a control, nonhyperthyroid patient. Preoperative basal metabolic rate -9 per cent. Nitrous-oxide-oxygen anesthesia.

tion, are capable of producing increased secretion of the adrenal glands

It seemed advantageous to interpret the operative responses in the hope of finding an index of hypersensitivity and thus a further criterion of operability. Detailed studies have been made of these responses during operations on many hundreds of thyroid patients admitted to the Long Island College Hospital. The reactions of blood pressure, pulse, and respiration are routinely recorded by an experienced anesthetist before and at five-minute intervals during the operation. A graph of these findings is plotted and is constantly available to the surgeon. These responses are felt to be sufficient, for practical purposes, to enable the operator to judge the degree of sensitivity. Control patients with various common surgical conditions and patients with colloid, exophthalmic, and toxic adenomatous goiters of varying degrees of toxicity were included in the studies and the various factors incidental to the operative procedures were carefully controlled. The anesthetics were administered by anesthetists of wide experience with goiter patients. The preliminary preparation with morphine and atropine was uniform and the gas anesthetics employed were nitrous oxide and cyclopropane. Avertin by rectum (supple-

mented by gas) and local (novocaine) anesthesia were also employed. In the following report of the clinical studies representative cases of exophthalmic goiter of varying degrees of sensitivity and toxicity have been chosen. An analysis and a graphic chart of each case are presented. The operative reactions produced by excision of adenomatous goiters will not be considered in this report. Suffice it to say that they are of the same general character as those seen in exophthalmic goiter but are relatively far less intense. The postoperative responses are correspondingly of less severity.

### Clinical Studies

**NEGATIVE OPERATIVE RESPONSES DURING EXCISION OF TUBERCULOUS CERVICAL GLANDS IN A CONTROL NONHYPERTHYROID PATIENT. NITROUS-OXIDE-OXYGEN ANESTHESIA.** Operative responses were observed in control nonhyperthyroid patients upon whom operations comparable to thyroidectomy were performed. These responses, in a representative instance, are graphically illustrated in Chart 1, and were observed during resection of tuberculous cervical glands in the following case:

*Case 1 Chart 1*—A woman, aged 25, was admitted to the Long Island College Hospital on

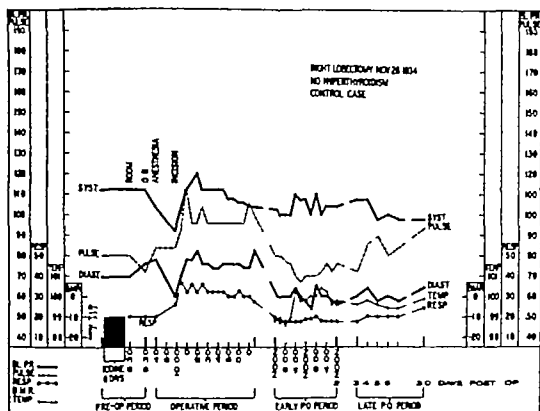


CHART 2 (CASE 2) Negative operative and postoperative reactions in a control hemithyroidectomy for removal of a carcinomatous nodule in the right lobe of an otherwise normal thyroid gland. Preoperative basal metabolic rate  $-15.3$  per cent. Nitrous-oxide-oxygen anesthesia.

March 5 1933 with the diagnosis of tuberculous cervical adenitis. Her general health was good. Four months previously following a 'sore throat' a swelling appeared immediately below the left ear and slowly increased in size. General physical and clinical examinations were negative except for the presence of a moderate anemia. A mass of enlarged lymph glands, approximately the size of a golf ball, was found below the left ear. The basal metabolic rate was  $-9$  per cent.

*Excision of tuberculous cervical glands Nitrous-oxide-oxygen anesthesia March 6, 1933*

**Operative Reaction**—The systolic blood pressure before operation is 110 mm. Hg (Chart 1). There is a gradual fall to 84 at the beginning of the operation. Thereupon minor fluctuations are seen and at the end the pressure is 80. The normal diastolic pressure is 72. It falls to 40 at the beginning of operation and remains approximately at this level to the end. The pulse pressure is 28 at the start and maintains this level throughout operation. There is a slight rise of respirations from 24 to 30 during operation.

**Comment**—In the nonhyperthyroid patient, operation, comparable to thyroidectomy, produces a negative response on the part of the blood pressure, pulse pres-

sure, pulse, and respirations. The post-operative course was uneventful, the highest temperature was  $99.6^{\circ}\text{F}$  and highest pulse, 108. Subjectively she was comfortable.

**CONTROL HEMITHYROIDECTOMY FOR REMOVAL OF A CARCINOMATOUS NODULE IN THE RIGHT LOBE OF AN OTHERWISE NORMAL THYROID GLAND. NEGATIVE OPERATIVE AND POSTOPERATIVE REACTIONS. PREOPERATIVE BASAL METABOLIC RATE  $-15.3$  PER CENT.**

**Case 2 Chart 2**—Mrs L., aged 28, was admitted to the Long Island College Hospital on November 28 1934 with the complaint of a small nodule the size of a hazelnut in the right thyroid region. There were no symptoms or findings indicative of hyperthyroidism. General physical examination was negative except for the presence of a firm nodule the size of a hazelnut in the superior pole of the right thyroid lobe. There were no glandular metastases. The pulse was 80. The basal metabolic rate following the preoperative administration of iodine was  $-15.3$  per cent.

**Radical right lobectomy Nitrous-oxide anesthesia November 28, 1934** Microscopic examination of the excised nodule confirmed the preoperative diagnosis of carcinoma. The patient made an uneventful convalescence. The basal metabolic

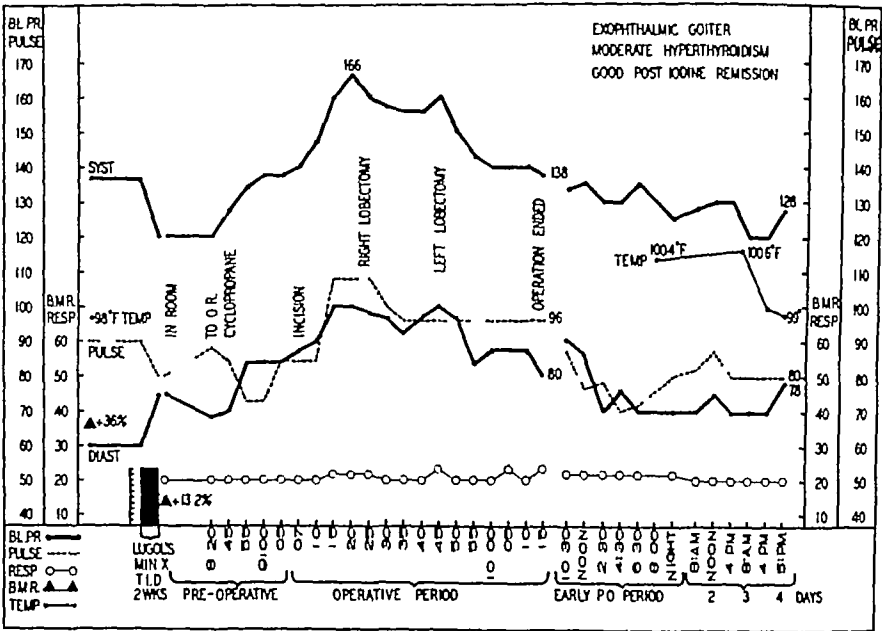


CHART 3 (CASE 3) Moderate operative and postoperative reactions in thyroidectomy for exophthalmic goiter with moderate hyperthyroidism Good clinical remission following preoperative iodine Basal metabolic rate + 13.2 per cent

rate, twenty days following operation, was -10.3 per cent

*Operative Reaction*—In this nonhyperthyroid patient, right hemithyroidectomy produces the following responses After anesthesia is established there is a moderate fall of systolic and diastolic pressures which then rise slightly above the preoperative levels Thereupon the systolic pressure falls slightly below while the diastolic pressure remains slightly above the preoperative level There is a slight decrease in the pulse pressure Both systolic and diastolic pressures remain below their preoperative levels during the postoperative period The pulse is moderately accelerated soon after operation is begun, the peak is only briefly maintained, and then a fall occurs at the end of the operation to a level moderately above the preoperative level

*Postoperative Period*—The pulse during the first two postoperative days is well below the rate maintained during operation The respiratory rate, which was moderately accelerated during operation, declines to its normal level immediately after operation There is a minimal and temporary response of the

blood pressure to hemithyroidectomy Immediately after the close of operation and during the postoperative period, all the responses fall to a level below their preoperative levels There was no elevation of the pulse and the highest rectal temperature was 99.4 F The patient was entirely comfortable

*Comment*—There is thus a completely negative response to hemithyroidectomy in the nonhyperthyroid patient and the postoperative reaction is similarly negative In other words, a mild or negative operative response is followed by a negative postoperative reaction

MODERATE BUT TEMPORARY OPERATIVE REACTIONS DURING THYROIDECTOMY FOR EXOPHTHALMIC GOITER IN THE AVERAGE PATIENT EXHIBITING MODERATE HYPERTHYROIDISM No PREVIOUS MEDICAL TREATMENT WITH IODINE GOOD CLINICAL REMISSION AND BASAL METABOLIC RATE OF +13.2 PER CENT FOLLOWING PRE-OPERATIVE INTENSIVE TREATMENT WITH IODINE

Case 3 Chart 3—Mrs L B, aged 40, came for examination on March 18, 1938, complaining of symptoms of hyperthyroidism which

began three months previously following a "cold." A basal metabolic rate of +36 per cent was reported at that time. She had lost 8 pounds in weight. Judging from the symptoms and course of the disease one would consider the hyperthyroidism to be of moderate intensity. She had received no medical treatment with iodine.

Upon examination slight exophthalmos which was more definite on the left, was noted. The thyroid gland was diffusely enlarged and presented definite vascular signs. Her pulse was 90 and her weight 141 pounds. Operation was advised and she was given Lugol's solution in doses of ten minims three times daily for fourteen days. After this treatment there was a slight gain in weight and she felt much improved. The pulse was reduced to 80 and extrasystoles which had been frequent before the treatment with iodine disappeared. The thyroid gland became firm and the vascularity was definitely diminished. A good clinical remission was obtained and the basal metabolic rate was +13.2 per cent after the treatment with iodine.

*Double lobectomy for exophthalmic goiter. Cyclopropane anesthesia. April 8 1938*

*Operative Reaction*—The systolic pressure, which had been 136 mm Hg, falls to 120 just before operation as a result of the preliminary sedative. There is no increase in the pressure as patient comes to the operating room. Immediately after the beginning of anesthesia and to the time of the incision, there is an elevation of pressure followed promptly by a further increase to a height of 166 at the beginning of the right lobectomy. Thereupon there is a moderate fall to the time when left resection is begun, following which there is a progressive moderate decline to the preoperative level of 138 mm Hg.

The diastolic pressure, just before operation, is 60 mm Hg. From the time the patient comes to the operating room to the beginning of anesthesia, there is a progressive elevation to a maximum of 100 when the resection of the right lobe is begun. It is then sustained at this level to the time of the left lobectomy after which there is a decline to 80 mm Hg at the close of the operation. The pulse pressure accordingly does not rise above its preoperative level.

The pulse before operation is 90 and falls to 74 before and after anesthesia is established. From this level it rises to a maximum of 108 during the right lobectomy and then declines to 96 during the remainder of the operation. There is no significant change in respirations.

*Postoperative*—During the four postoperative days the systolic pressure, which was 138 mm Hg at the close of operation, slowly declines and at the end of four days is 128. There is also a gradual decline of the diastolic pressure from 90 to 78 mm Hg. The pulse which was 96 at the close of the operation gradually declines to 80. The temperature which before operation was 98 F rises on the third day following operation to its highest point of 100.6 F by rectum. The postoperative subjective reaction was entirely comfortable. There was no nausea or vomiting. She took nourishment well and made a rapid uneventful recovery.

*Comment*—This case illustrates the following. A patient with exophthalmic goiter, previously untreated with iodine and with moderately severe hyperthyroidism, reacts with a good clinical remission and a satisfactory fall of metabolic rate following the preoperative treatment with iodine. She represents, perhaps, the average moderately toxic case of exophthalmic goiter untreated medically with iodine. The operative response to double lobectomy is moderate. There is a progressive fall of blood pressure and pulse after the maximum reaction is past, early in the operation. The postoperative manifestations were moderate and the subjective status of the patient was entirely comfortable. A prompt recovery followed. Patients belonging to the group, of which this case is an illustrative example, are characterized by exhibiting a moderate operative response to thyroidectomy which is followed, in the great majority of instances by a moderate uneventful postoperative reaction.

MODERATE AND SUSTAINED OPERATIVE AND POSTOPERATIVE REACTIONS IN THY

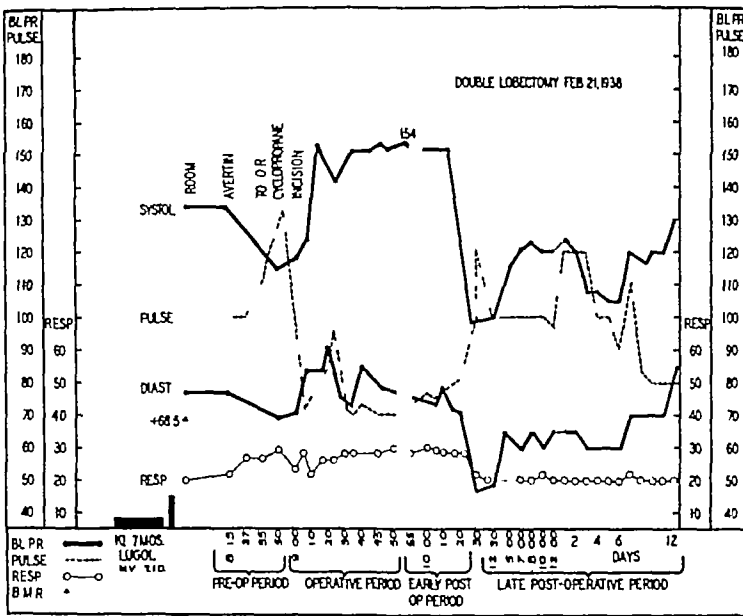


CHART 4 (CASE 4) Moderate and sustained systolic and pulse pressures and fairly sharp postoperative responses in thyroidectomy for exophthalmic goiter with fairly marked hyperthyroidism exacerbated by the prolonged treatment with iodine. Poor remission following preoperative iodine. Preoperative basal metabolic rate +68.5 per cent. Avertin and cyclopropane anesthesia.

ROIDECTOMY FOR EXOPHTHALMIC GOITER ASSOCIATED WITH FAIRLY MARKED HYPERTHYROIDISM EXACERBATED BY THE PROLONGED TREATMENT WITH IODINE POOR REMISSION FOLLOWING PREOPERATIVE TREATMENT WITH IODINE

*Case 4 Chart 4*—Mrs. M. C., aged 32, complained of typical symptoms of hyperthyroidism, which had been present for one year and which grew progressively worse. Small doses of potassium iodide, together with iodex injections, were given over a period of seven months until one month before her first examination by me on February 4, 1938. She had lost 12 pounds in weight. The thyroid gland was definitely enlarged, and showed moderate vascular signs. The pulse was 134. Lugol's solution in doses of five minims three times daily was administered for fifteen days preceding operation. A poor clinical remission followed and the basal metabolic rate, following the preoperative treatment with iodine, remained high, registering +68.5 per cent.

*Double lobectomy Avertin and cyclopropane anesthesia February 21, 1938* Avertin was chosen because of the presence of a fairly marked hyperthyroidism and a mitral cardiac lesion.

*Operative Reaction*—Contrary to the usual experience when gas anesthesia alone is employed, a brief fall of both systolic and diastolic pressures occurs as the patient comes to the operating room. Immediately after the incision is made a sharp rise of both occurs. The usual effects of avertin are dissipated and the stimulating influences of the operative procedure make themselves felt. At the beginning of anesthesia there is a sharp psychic rise of pulse, which thereupon shows a marked fall after anesthesia is established. During the remainder of the operation the pulse rate rises briefly and then declines to a moderate rate. The systolic blood pressure is maintained at the high level of 154 mm Hg, the diastolic falls toward the end of the operation, and the pulse pressure accordingly is definitely increased. The respiratory rate is moderately increased during operation.

*Postoperative*—The postoperative manifestations are moderately acute and characterized by a definite rise of systolic and a fall of diastolic pressures and a

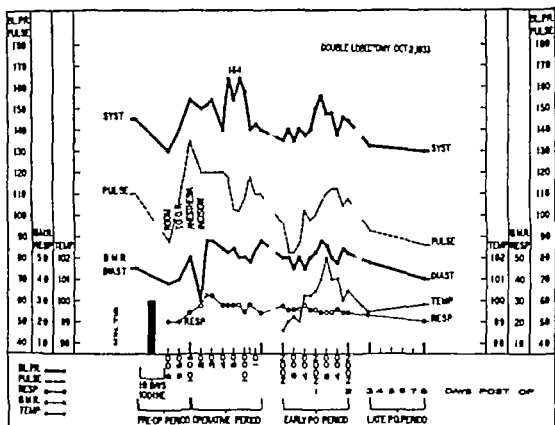


CHART 5 (CASE 5) Sharp responses in thyroidectomy for exophthalmic goiter associated with fairly marked hyperthyroidism. The hypersensitivity of the patient to operative procedure persists in spite of a good remission following preoperative treatment with iodine and a preoperative basal metabolic rate of +13 per cent. Sharp postoperative reaction.

fairly definite and irregular increase in the pulse rate. The respirations gradually become less rapid. Subjectively the patient at this time was fairly comfortable. The early restlessness soon disappeared, following which nourishment was well taken. There was no vomiting. The highest rectal temperature, which occurred twenty four hours after operation, was 102 F and the highest pulse, 120. The postoperative reaction would be considered moderately active and proportional to the operative response.

*Comment*—This case illustrates the behavior of the operative responses during double lobectomy for exophthalmic goiter in certain patients who have been continuously treated over long periods of time with iodine with a resultant moderate exacerbation of symptoms. A poor clinical remission commonly follows the preoperative treatment with iodine and the metabolic rate may remain high. The operative response is sharp but not so severe as to preclude the assumption of the risk involved in the double lobectomy. The postoperative response is fairly sharp but not severe.

SHARP OPERATIVE AND POSTOPERATIVE REACTIONS DURING AND AFTER THYROIDECTOMY FOR EXOPHTHALMIC GOITER ASSOCIATED WITH FAIRLY MARKED HYPERTHYROIDISM. NO PREVIOUS MEDICAL TREATMENT WITH IODINE. GOOD REMISSION FOLLOWING PREOPERATIVE TREATMENT WITH IODINE BUT HYPERSENSITIVITY OF THE PATIENT PERSISTS.

*Case 5 Chart 5*—Mrs L. Y. aged 34 suffered with a fairly toxic hyperthyroidism of one year's duration. She did not receive treatment with iodine. There was a loss of 40 pounds in weight during the two years preceding her first examination by me on September 20, 1933. The thyroid gland was diffusely enlarged and showed the usual vascular signs. The pulse was 110 and the basal metabolic rate +49 per cent. Preoperative treatment with Lugol's solution was given in doses of ten minims three times daily for ten days. Intravenous injections of 10 grains of sodium iodide were given daily for three days preceding operation. As a result, a good clinical remission was obtained. The basal metabolic rate registered +12 per cent and the pulse 110.

*Double lobectomy Nitrous oxide-oxygen anesthesia October 2, 1933* The

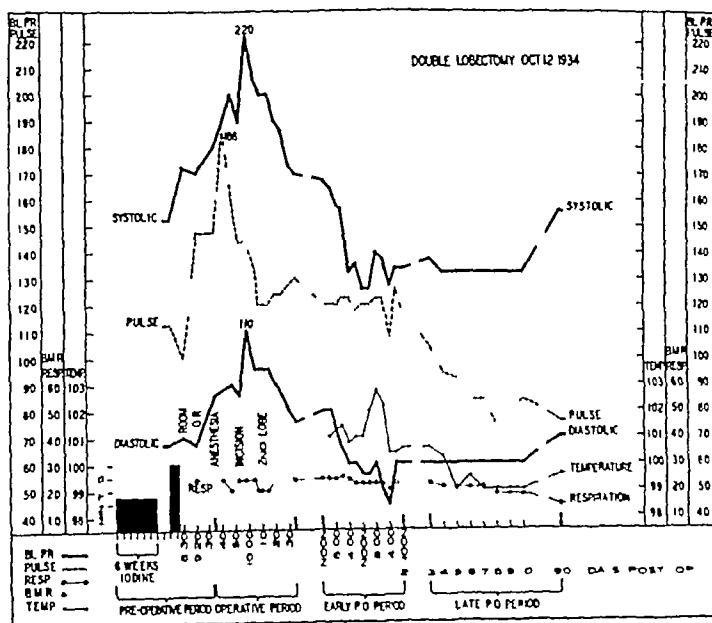


CHART 6 (CASE 6) Sharp but brief reactions during the first fifteen minutes of thyroidectomy for exophthalmic goiter with fairly marked hyperthyroidism. Moderate iodine exacerbation. Poor clinical remission following preoperative administration of iodine. Basal metabolic rate of +28 per cent. Inasmuch as the maximum reaction is brief and is followed by a sharp and early decline of pressures and pulse, second lobectomy is safely performed. Uneventful postoperative period.

typical colloid, exophthalmic gland seen after treatment with iodine was found.

**Operative Reaction**—There is a moderate fall of the patient's normal systolic and diastolic pressures and pulse as she comes to the operating room. (This is doubtless due to the preliminary administration of morphine.) From the start of anesthesia to the time of the incision a definite rise of pressure and pulse occurs, the systolic pressure reaching a peak of 164 mm Hg, the diastolic 85 mm Hg, and the pulse 135. Thereupon there is a fall and at the end of operation the systolic pressure registers 138 mm Hg, the diastolic 85, and the pulse 108. The respiratory rate is moderately increased during operation. (A fairly sharp operative reaction is seen in a patient with fairly marked hyperthyroidism. The hypersensitivity continues even though a good postiodine remission was obtained.)

**Postoperative**—The postoperative responses are also fairly marked with the highest points reached as follows—systolic

pressure 158 mm Hg, diastolic 90, pulse 110, and rectal temperature 102.5 F. The subjective status of the patient was proportionate to the operative reaction. She complained considerably of nausea, of pain in the operative field, and of "gas on the stomach." She was very restless for twenty-four hours but on the following day she was fairly comfortable.

**Comment**—This case is illustrative of a certain group. Occasionally patients with exophthalmic goiter untreated with iodine and with fairly toxic hyperthyroidism react with good clinical remissions and a marked fall in the basal metabolic rates following the preoperative treatment with iodine. It would seem from previous experiences that the operative responses during thyroidectomy should be moderate, and should be followed by a moderate and comfortable postoperative reaction. However, in spite of the apparently good clinical condition of a patient in this group, the operative re-

sponse is decidedly sharp and the post operative period definitely uncomfortable. The hypersensitiveness of the patient persists even though the clinical symptoms and the basal metabolism are controlled by the preoperative treatment with iodine. The relatively low preoperative metabolic rate is not a reliable criterion of the intensity of reaction to be expected during thyroidectomy.

**SHARP BUT BRIEF OPERATIVE AND MILD TO MODERATE POSTOPERATIVE REACTIONS IN THYROIDECTOMY FOR EXOPHTHALMIC GOITER WITH FAIRLY MARKED HYPERTHYROIDISM. PREVIOUS IODINE THERAPY AND MODERATE IODINE EXACERBATION. POOR REMISSION FOLLOWING PREOPERATIVE ADMINISTRATION OF IODINE.**

*Case 6 Chart 6*—Mrs. E. K. aged 72 was first seen by me on September 24 1934. She suffered with definite symptoms of hyperthyroidism for a period of ten months during the last six of which she lost 20 pounds in weight. She had taken Lugol's solution in doses of five minims three times daily for six weeks preceding her first visit. She was considered to be in a moderate "iodine exacerbation." She was given Lugol's solution in doses of ten minims three times daily for thirteen days, following which there was a poor clinical remission and the metabolic rate was +28 per cent. The thyroid gland was diffusely prominent and firm as a result of accumulation of colloid and showed moderate vascular signs. The pulse was 112. The diagnosis of exophthalmic goiter was clear.

*Double lobectomy Nitrous-oxide-oxygen anesthesia October 12, 1934*

*Operative Reaction*—The blood pressure and pulse immediately rise as the patient comes to the operating room, and continue elevating to a maximum about twenty minutes after the incision is made. The systolic pressure, which is 154 mm Hg at the beginning, reaches a maximum of 220 mm Hg, the diastolic 110 mm Hg, and the pulse 186. The pulse pressure, however, increases only 24 mm Hg. The changes in the respiratory rate are not significant. The responses, having passed their maximum before the left resection is begun, promptly decline, indicating that the stimulating

forces have spent themselves, whereupon the resection of the left lobe is completed. This early secondary sharp fall of pressure and pulse during operation is followed by a comfortable and moderate reaction.

*Postoperative*—The response, in spite of the early, sharp, severe but temporary operative reaction, is only mild to moderate. The highest systolic pressure during the early hours is 142 mm. Hg, the maximum pulse 128, and rectal temperature 102.8 F. Subjectively the patient was fairly comfortable. There was no unusual restlessness and she complained little, except for some soreness of her throat. During the first ten postoperative days a gradual subsidence of pulse and temperature occurs, whereas the systolic pressure remains approximately 135 mm. Hg. Ninety days after operation the systolic pressure returns to its former preoperative level of 155 to 158 mm Hg, the pulse is 78, and the basal metabolic rate -2.1 per cent.

*Comment*—An elderly woman, with exophthalmic goiter, developed a moderately acute iodine exacerbation following treatment for six weeks with Lugol's solution. She received intensive preoperative treatment with iodine for thirteen days, following which a poor clinical remission was obtained though the basal metabolic rate was only +28 per cent. She had a sharp psychic reaction on coming to the operating room followed by sharp and dramatic increases of pulse and of systolic and diastolic pressures. This augmentation of signs is, however, brief and in twenty minutes, when the resection of the right lobe is almost completed, there is a sharp fall in pulse rate and pressure. This, together with the fact that at this same time the pulse pressure has increased only 24 mm Hg, encouraged the operator to complete the double lobectomy with the feeling that no great risk was involved. Had the reaction been sustained at the level of its maximum or approximately 220 and, in particular, had there been a greater increase in the pulse pressure,



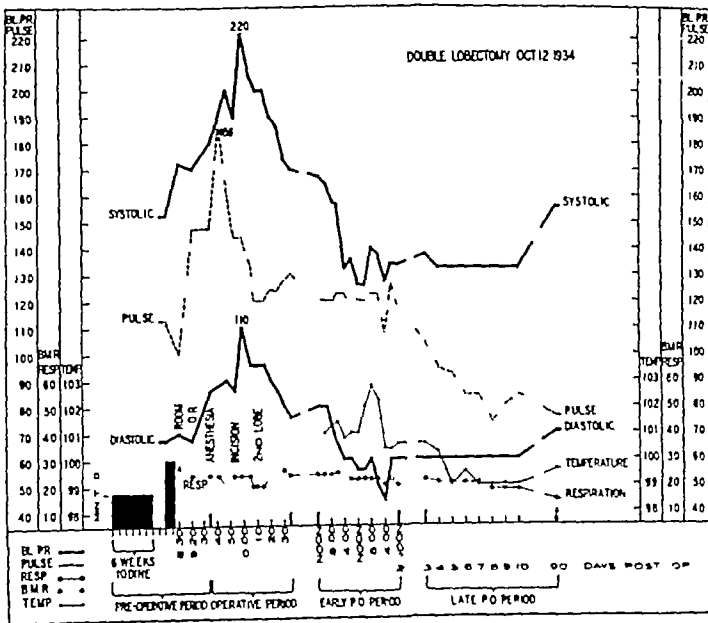


CHART 6 (CASE 6) Sharp but brief reactions during the first fifteen minutes of thyroidectomy for exophthalmic goiter with fairly marked hyperthyroidism. Moderate iodine exacerbation. Poor clinical remission following preoperative administration of iodine. Basal metabolic rate of +28 per cent. Inasmuch as the maximum reaction is brief and is followed by a sharp and early decline of pressures and pulse, second lobectomy is safely performed. Uneventful postoperative period.

typical colloid, exophthalmic gland seen after treatment with iodine was found.

*Operative Reaction*—There is a moderate fall of the patient's normal systolic and diastolic pressures and pulse as she comes to the operating room. (This is doubtless due to the preliminary administration of morphine.) From the start of anesthesia to the time of the incision a definite rise of pressure and pulse occurs, the systolic pressure reaching a peak of 164 mm Hg, the diastolic 85 mm Hg, and the pulse 135. Thereupon there is a fall and at the end of operation the systolic pressure registers 138 mm Hg, the diastolic 85, and the pulse 108. The respiratory rate is moderately increased during operation. (A fairly sharp operative reaction is seen in a patient with fairly marked hyperthyroidism. The hypersensitivity continues even though a good postiodine remission was obtained.)

*Postoperative*—The postoperative responses are also fairly marked with the highest points reached as follows—systolic

pressure 158 mm Hg, diastolic 90, pulse 110, and rectal temperature 102.5 F. The subjective status of the patient was proportionate to the operative reaction. She complained considerably of nausea, of pain in the operative field, and of "gas on the stomach." She was very restless for twenty-four hours but on the following day she was fairly comfortable.

*Comment*—This case is illustrative of a certain group. Occasionally patients with exophthalmic goiter untreated with iodine and with fairly toxic hyperthyroidism react with good clinical remissions and a marked fall in the basal metabolic rates following the preoperative treatment with iodine. It would seem from previous experiences that the operative responses during thyroidectomy should be moderate, and should be followed by a moderate and comfortable postoperative reaction. However, in spite of the apparently good clinical condition of a patient in this group, the operative re-

appear subsequently, the operative and postoperative reactions were definitely acute.

*Operative Reaction*—In referring to Chart 7 one notes a prompt and progressive elevation of the systolic blood pressure as the patient comes to the operating room and to the time of the incision. Thereupon it progressively rises and reaches a peak of 188 mm. Hg when the resection of the second lobe is begun. Note that the systolic pressure is well sustained, being 182 mm Hg at the end of operation. The pulse rate is markedly accelerated and reaches a maximum of 160 soon after anesthesia is begun and then falls to a level of 110 when the resection of the second lobe is begun, only to begin a secondary rise to 140 at the end of operation.

There is an initial fall of the diastolic, followed by a rise approximately to 85 mm. Hg, which is maintained to the end of operation. Note further that the pulse pressure augments markedly from 60 mm. Hg before operation to 102 mm Hg during the summit of the reaction. There is a moderate increase of respirations. In brief, one sees a sharp elevation of systolic pressure which tends to be maintained at a high level, there is a sharp augmentation of pulse at the beginning and a subsequent fall followed by a secondary rise, to the end of the operation, and a definite increase of respirations. These operative responses indicate a reaction of marked intensity.

*Postoperative Period*—Soon after the completion of the operation the heart begins to fibrillate, and twenty six hours later the apical rate is 180 and the radial 170. Four hours later the cardiac rhythm is again regular, the pulse rate declines and finally, forty-eight hours after operation, the pulse is 120, the systolic pressure is maintained at a high level of 174 mm Hg, and the diastolic is 75, producing thus an augmented pulse pressure of 99 mm Hg. During the succeeding days the systolic and pulse pressures decline to levels below those preceding the operation.

A stormy period of forty-eight hours followed operation. The patient was extremely restless and appeared to be in crisis. The heart fibrillated and the pulse was extremely irregular, the apical beat being 180 at its highest and the radial 120. He was constantly clearing his throat and complaining of various annoyances. The highest rectal temperature during this period was 104.2 F. His condition gave considerable concern. Recovery was gradual and the patient left the hospital twelve days after operation. On the thirtieth postoperative day the general condition is excellent and, as noted in Chart 7, the systolic blood pressure has fallen to 140 mm Hg and the diastolic to 78. The pulse is 80. Temperature and respirations are normal and the basal metabolic rate +4.4 per cent.

*Comment*—This case illustrates the behavior of certain patients who have been treated over prolonged periods with iodine in alternating minimal and maximal doses. Wide fluctuations in the severity of the symptoms and in the basal metabolic rates are noted. A fairly acute iodine exacerbation finally develops. Following further intensive treatment with iodine, the clinical status is not improved and the basal metabolic rate is +38 per cent. When compared with the previous case, the following differences are noted. In the present instance, acute aggravation of symptoms was precipitated by the administration of varying amounts of iodine for nine months whereas in the previous patient treated continuously over a period of six weeks with moderately large amounts of iodine the exacerbation was only mild to moderate. The metabolic rate, however, was only 10 per cent higher. Furthermore, the operative reaction was considerably more intense in the following respects. The marked augmentation of the systolic pressure was sustained to the end of the operation. Similarly the increase in pulse pressure was marked and sustained. The pulse rate was sharply accelerated during the first few minutes of the operation. A decline and a sharp secondary rise to

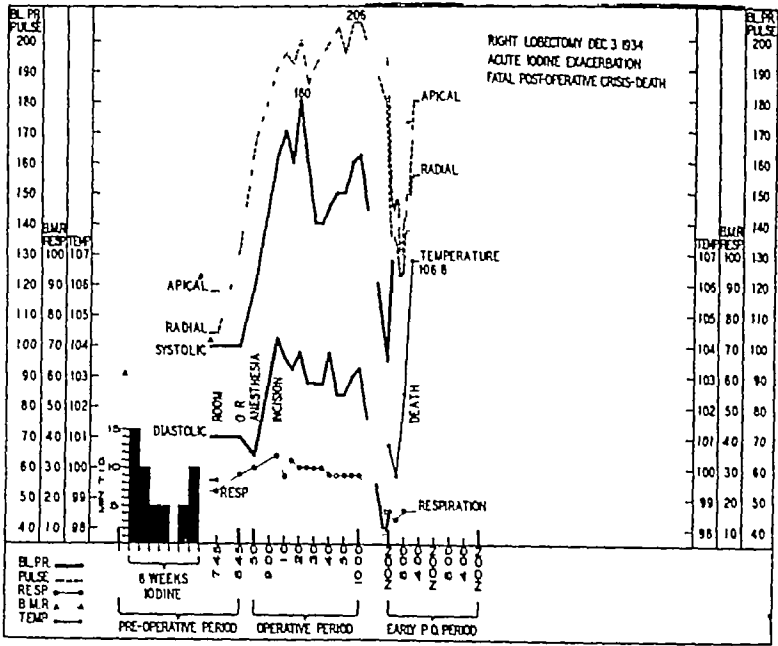


CHART 8 (CASE 8) Extremely acute operative and postoperative responses associated with hemithyroidectomy for exophthalmic goiter in a patient with severe hyperthyroidism and in critical iodine exacerbation. Note the marked increase in pulse pressure. Postoperative crisis and death, fourteen and one-half hours after operation.

the end were then noted. The respiratory rate was also definitely increased. This intense reaction anteceded a severe postoperative reaction, virtually a crisis, which was the cause of considerable anxiety for forty-eight hours. Had the operator anticipated the possibility of such crisis, hemithyroidectomy would have been done. Operative reactions of the type described are now interpreted as warning signals. The basal metabolic rate would hardly have made one suspect such unusual hypersensitivity in this patient.

EXTREMELY INTENSE OPERATIVE AND POSTOPERATIVE REACTIONS ASSOCIATED WITH HEMITHYROIDECTOMY FOR EXOPHTHALMIC GOITER IN A PATIENT WITH SEVERE HYPERTHYROIDISM AND IN SEVERE IODINE EXACERBATION. POSTOPERATIVE CRISIS AND DEATH

Case 8 Chart 8—Mrs. L. A., aged 53, suffered with symptoms of hyperthyroidism, the acute onset of which occurred two months previous to her first examination by me on November 5, 1934. Two weeks after the beginning of symptoms the basal metabolic rate was +61 per

cent. At this time treatment with Lugol's solution, in doses of five to ten minims, was given three times daily over a period of five weeks and then discontinued for a week preceding her first visit. Progressive aggravation of the symptoms followed. Upon examination it was evident that she was in a phase of acute iodine exacerbation. She was extremely nervous. During a period of eight weeks she had lost 12 pounds in weight, the heart was fibrillating, the apex beat being 160 and the radial 120, and the pulse deficit was 40. She complained of epigastric distress and nausea. Definite diffuse enlargement of the thyroid gland, which showed mild to moderate vascular signs, was noted. She weighed 104 pounds. General supportive measures were given. Lugol's solution was again administered in doses of five minims three times daily and sodium iodide was given intravenously. No remission of symptoms occurred. She continued to lose weight, the heart continued to fibrillate, the apical rate increased to 168, and the radial to 128. The toxemia progressively increased, causing frequent vomiting spells. The basal metabolic rate on November 30, 1934, was reported as +91 per cent. (This reading may have been erroneously high since the patient was not inclined to be cooperative.) The hyperthyroidism was evidently intense and attribut

able at least in part to the interruption in the treatment with iodine.

In view of the improbability of securing improvement from further general measures, *ligation of the right superior thyroid artery under novocaine anesthesia was done on November 19, 1934, and ligation of the left superior thyroid artery on November 23, 1934*. These operations were fairly well tolerated, though there was a sharp operative reaction in each instance, the pulse rate increasing to 186 and more. There was no appreciable improvement following these procedures. The excitability of the patient continued and evidences of mental aberration appeared. The alternative presented itself of abandoning all operative measures and condemning the patient to a hopeless outcome or making some further attempt with more radical measures. The pre-operative basal metabolic rate was +71.7 per cent. The heart continued to fibrillate, the apical rate being 120 and the radial 105. In virtual desperation and with full appreciation of the dangers inherent in further operative measures, *right lobectomy under nitrous-oxide-oxygen anesthesia was performed on December 3, 1934*, nine days after the second ligation operation. A large vascular gland containing a considerable amount of colloid was found. The general condition of the patient was critical at the end as it had been at the beginning of operation.

**Operative Reaction**—Immediately upon the arrival of the patient in the operating room there is a sharp and continuous increase in the pulse rate (Chart 8). Forty minutes after the incision is made it registers 200 and finally reaches its maximum of 206. There is no tendency of the pulse rate to subside toward the end of the operation. The systolic pressure augments acutely from 100 mm Hg before operation to 180 ten minutes after the incision is made. Thereupon there is a temporary fall to 140 and a subsequent secondary rise to 165 mm Hg. The diastolic pressure rises from 72 mm Hg to 105 and then gradually falls to 75. There is a marked augmentation of pulse pres-

sure during operation to 75 mm. Hg, as compared with 26 mm. Hg before operation. Respirations increase from 24 to a maximum of 35 at the peak of the operative reaction.

The extremely intense operative response is characterized by the precipitous rise of pulse, blood pressure, and respirations and by the failure of these to abate from their unusually high levels by the time the operation is completed.

**Postoperative Period**—One and one half hours following operation the apical pulse rate subsides to 145 and the radial rate to 125. A collapse of the blood pressure is noted, the systolic declining to 95 mm. Hg, while the diastolic is not definitely obtainable, being indicated as 12 mm Hg. Thereupon, ten hours after operation while the heart is still fibrillating, there occurs a precipitous increase of the apical rate to 182 and of the radial to 155. The systolic pressure rises to 130 mm. Hg and the rectal temperature to 106.8 F.

During the postoperative period the patient was semiconscious and extremely restless. It was evident that she was in extreme crisis. The excitability was uncontrollable even by large amounts of sedatives, and in spite of all available therapeutic measures, she died fourteen and one-half hours after operation.

**Comment**—Though the result of hemithyroidectomy was disastrous, this case is instructive. A woman with exophthalmic goiter, who was in a phase of acute and severe iodine exacerbation in part, at least, due to discontinuance of the prolonged use of iodine before she appeared for surgical treatment, failed to improve after further intensive treatment with iodine. In fact, a progressive aggravation of symptoms occurred. Ligations of the superior thyroid arteries effected little or no improvement. As a last desperate measure and with full appreciation of the dangers on the part of the operator, right hemithyroidectomy was done. This precipitated a critical operative reaction that is evident in Chart 8. The extreme and sustained

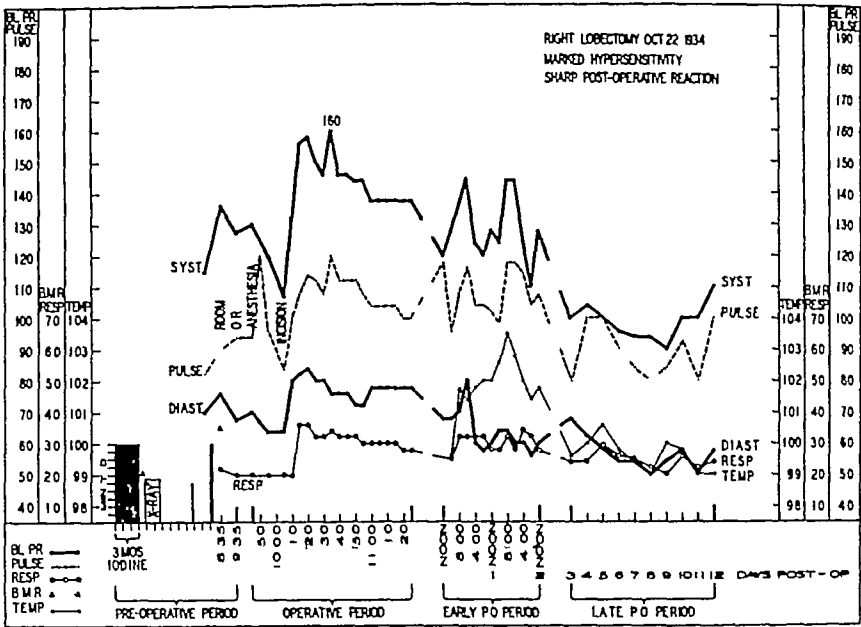


CHART 9 (CASE 9) Sharp reactions in hemithyroidectomy for exophthalmic goiter in a chronic state of "iodine saturation" No improvement with further preoperative treatment with iodine. The hyperthyroidism appears to be controlled but there is a persistence of marked hypersensitivity requiring stage operations Preoperative basal metabolic rate +35 per cent Nitrous-oxide-oxygen anesthesia Severe postoperative reaction

operative responses are continuous with similar postoperative reactions An intense immediate postoperative crisis followed from which the patient died

Crisis thus appears to be a direct result of critical phenomena precipitated by operation and characterized by intense and sustained augmentation of blood pressure, pulse pressure, pulse, and respirations Similar, intense reactions are characteristic of postoperative crisis

STAGE OPERATIONS, PERFORMED IN INSTANCES IN WHICH THE OPERATIVE REACTIONS ARE SHARP AND WOULD SEEM TO INDICATE THAT DOUBLE LOBECTOMY WOULD NOT BE SAFE HEMITHYROIDECTOMY FOR EXOPHTHALMIC GOITER, IN A CHRONIC STATE OF "IODINE SATURATION," AFTER PROLONGED PERIODS OF TREATMENT WITH IODINE PERSISTENCE OF HYPERSENSITIVITY TO OPERATIVE MEASURES

Case 9 Chart 9—Miss R, aged 23, was first seen by me on October 4, 1934 She complained of symptoms typical of moderate hyperthyroidism which began nine months to a year previously She had lost 43 pounds in weight

during the preceding year and a half Her weight before onset of the hyperthyroidism was 205 pounds Following the administration of Lugol's solution in doses of ten minims three times daily, from November, 1933, to February, 1934, there was only minor improvement. The basal metabolic rate was +21 per cent Iodine treatment was then discontinued During August, 1934, she again received Lugol's solution in doses of twenty minims daily When she was first seen in October, 1934, she was apparently in a state of moderate chronic hyperthyroidism induced by large doses of iodine administered to the point of iodine "saturation" over prolonged periods during the preceding eleven months The thyroid gland was large, bulging, and firm to palpation Vascular signs were definite The pulse rate of 82 was surprisingly low Definite exophthalmos was present and the diagnosis of exophthalmic goiter was clear The administration of Lugol's solution, in doses of ten minims three times daily for eleven days, failed to produce definite improvement The basal metabolic rate on October 22, 1934, was +35 per cent and the pulse 94 Resection of the thyroid gland was advised

Right lobectomy and excision of the 1st larynx Nitrous-oxide-oxygen anesthesia October 22, 1934

**Operative Reaction**—The normal systolic pressure is 115 mm Hg (Chart 9). It increases to 136 as the patient comes to the operating room, then declines to 108 at the time of the incision. Thereupon there is a precipitous ascent to 156. Within a period of twenty or twenty five minutes, when the resection of the right lobe is completed, it is still higher, being 160. The operation is restricted to right hemithyroidectomy, whereupon the systolic pressure gradually subsides to 130 at the end of the operation. The diastolic pressure before operation is 70 mm Hg. It drops slightly until the incision is made then rises to a maximum of 84 during the right resection and then declines gradually to 74 at the end. The pulse pressure before operation is 45 mm Hg and at the height of reaction advances to 76 mm Hg. The pulse rate at the beginning is 82, rises to 94 when patient is brought to operating room, and during induction of anesthesia mounts promptly to 120. Thereupon it falls to 85 when the incision is made and again rises abruptly to 120 upon completion of the hemithyroidectomy. Thereupon a more extensive procedure is not considered advisable. The pulse decreases to 108 at the end. The respirations rise from 22 before operation to 36 at the summit of the reaction and then decline to 26 at the end.

**Postoperative**—The sharp operative response with a temporary moderate subsidence toward the close of operation is followed promptly by a sharp postoperative reaction. The systolic pressure, which declines to 125 mm. Hg thirty minutes after completion of operation, augments during the succeeding eight hours to 146. Thirty two hours later, at the maximum, the systolic pressure again increases to 146, after which there is a decline approximately to the preoperative normal, in fifty two hours. During this same postoperative period there is an early increase in the diastolic pressure which subsequently declines to an average of 60 mm Hg. The definite increase of pulse pressure observed during operation is sustained during the early postoperative period.

At the peak of the postoperative response, the pulse pressure is 86 mm Hg, as compared with 76 during, and 45 before operation. The pulse, in general, parallels the behavior of the systolic pressure, rising from 105 to 120 during the peak of the response and declining to 98 at the end. The highest postoperative rectal temperature is 103.0 F. The respirations average 32.

During the first two postoperative days the subjective and objective manifestations were characteristic of a sharp reaction. The patient was unusually nervous and excitable. She perspired freely and was annoyed by considerable nausea and vomiting. Thereafter convalescence was satisfactory. Twelve days after operation the systolic blood pressure is 112 mm Hg, the diastolic 60, the pulse 102, respirations 24, and temperature 99 F.

**Comment**—This case illustrates the following points. A patient with exophthalmic goiter, having been treated with iodine for eleven months, with alternating periods of interruption of treatment, finally appears to be in a state of chronic controlled moderate hyperthyroidism, the symptoms of which are not alarming. The thyroid gland appears to be 'saturated' with iodine. At any rate, further treatment fails to produce improvement. The clinical manifestations, the pulse of 94, and the basal metabolic rate of +35 per cent, seem to indicate that a double lobectomy could be done without hesitation or anxiety. There had been, however, a marked loss of weight. Nevertheless during right hemithyroidectomy, the operative reaction is so sharp and sustained beyond the time of completion of the right resection that, in accordance with previous experiences, it seems best to restrict the operation to a unilateral lobectomy. Sharp responses of this character and intensity are not uncommonly followed by dangerous postoperative crisis. Even though the hyperthyroidism appears to be controlled and the metabolic rate satisfactory, the hypersensitivity to operation persists. It is this factor that seems so definitely related to the degree of postoperative re-

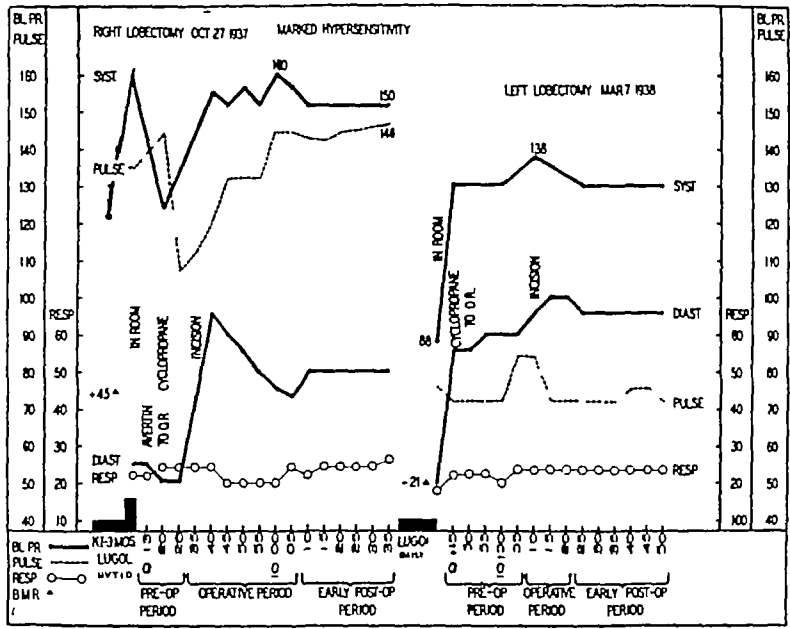


CHART 10 (CASE 10) Persistence of marked hypersensitivity of a patient with acute iodine exacerbation who develops progressively severe hyperthyroidism during prolonged treatment with small doses of potassium iodide. Stage procedures felt to be definitely indicated. Basal metabolic rate before the first hemithyroidectomy +45 per cent. Avertin and cyclopropane anesthesia. Note the diminished sensitivity evidenced in the chart of the second hemithyroidectomy.

sponse that one may expect. That good judgment was exercised was indicated by the severity of the postoperative response.

STAGE OPERATIONS FOR EXOPHTHALMIC GOITER IN A PATIENT WITH MARKED HYPERSENSITIVITY AND IN ACUTE IODINE EXACERBATION WHO DEVELOPED PROGRESSIVELY SEVERE HYPERTHYROIDISM DURING PROLONGED TREATMENT WITH SMALL DOSES OF POTASSIUM IODIDE

*Case 10 Chart 10*—Miss E. L., aged 17, noted nervousness and loss of 10 pounds in weight at the beginning of her illness ten months before she was first examined by me on October 5, 1937. She had been suffering with characteristic symptoms of hyperthyroidism for four months, during the last three of which her physician had given her two minims of a potassium iodide solution daily. After five weeks of this treatment she had regained some weight and the basal metabolic rate was reported to be +22 per cent. Thereupon the hyperthyroidism definitely increased and she became highly nervous. When she was first seen by me her pulse was 126, systolic pressure 122, and diastolic 58 mm Hg. Marked tremor of the hands and generalized jerky movements were noted. Three days later

the basal metabolic rate was +40 per cent. She became nauseated, appeared ill, and it was evident that there was an acute iodine exacerbation. A marked exophthalmos was noted. In the hope of controlling the exacerbation, treatment with iodine was continued during the following three weeks in the form of Lugol's solution administered in doses of five minims three times daily. This failed to produce any appreciable remission. In fact, the symptoms became more intense and the pulse rate increased from 126 to 144. There was a further loss of 4 pounds in weight, while the basal metabolic rate rose from +40 to +45 per cent. The thyroid gland was large, prominent, firm, and showed marked vascular signs. The diagnosis of exophthalmic goiter in the phase of acute "iodine exacerbation" was made.

*Right lobectomy Avertin-cyclopropane anesthesia October 27, 1937* Because of the extreme nervousness exhibited by the patient, a moderate dose of avertin was given by rectum, followed by inhalation anesthesia with cyclopropane.

*Operative Reaction*—The systolic pressure augments from 138 to 160 mm Hg as preparations are made to give the avertin (Chart 10). The latter causes a

transient fall of pressure to 125, followed by a prompt increase to 136 and finally to 160 mm. Hg. Thereupon the systolic pressure subsides to 150, where it is maintained to the end of the operation. The normal diastolic pressure of 58 mm Hg declines slightly under avertin anesthesia and then, at the beginning of operation, rises to 96. Synchronous with the maximum increase in systolic pressure it falls to 75, producing thus a secondarily increased pulse pressure. This increased pulse pressure is then maintained to the end of operation. The pulse rate, beginning at 136, advances to 144 and then, after the avertin is administered, falls to 106. Following the incision there is a progressive rise to 146 at the end of the operation. The respirations are mildly accelerated at the beginning and again toward the end of operation.

*Comment*—The operative reaction in this instance is sharp, as indicated by the definite and sustained secondary increase of blood pressure, pulse, pulse pressure, and respirations during operation and by the tendency for these to be sustained at high levels until the end of operation. At no time during the progress of the operation is there a tendency of the operative responses to subside.

This case illustrates several points. A patient with exophthalmic goiter suffers with progressively toxic hyperthyroidism as a result of the administration of small amounts of potassium iodide over a period of three months. She finally suffers with an acute iodine exacerbation. The further administration of large amounts of iodine fails to produce a clinical remission and the metabolic rate remains elevated at +45 per cent. In order to reduce as far as possible the psychic and operative shock, avertin per rectum is used and is supplemented by cyclopropane. The secondary response to the operative procedure is sharp and sufficient to counteract the initial depressing effects of avertin. As a result one sees a sharp and sustained operative response continuing at elevated levels to the end of operation. Reactions of this degree of intensity indicate that the operation is ad-

vantageously restricted to a single lobectomy to avoid a dangerous postoperative reaction.

*Postoperative Course*—The patient was extremely nervous and restless during the first two days of the postoperative period. Liberal amounts of sedative were required, and generalized tremors were noticeable even during the short periods of sleep. Vomiting spells were frequent. Rectal temperature rose to 104.2 F four hours after operation, at which time the systolic pressure increased to 175 mm Hg, the respirations were 25, the diastolic pressure was 50, and the pulse pressure was augmented by 25 mm Hg. After the second day the reaction gradually subsided. The postoperative response was unusually intense and it was felt that had double lobectomy been done the result might well have been disastrous.

*Further History*—Following operation the administration of Lugol's solution in doses of five minims three times daily was continued. One month after right lobectomy the patient was still highly nervous and restless and the pulse was 140. She had, however, regained a good appetite and 5 pounds in weight. During the succeeding four months progressive improvement in the severity of the hyperthyroidism was noted. The pulse rate declined to 82 per minute, there was a further gain of 15 pounds in weight. The nervousness almost entirely disappeared and she was feeling well. The basal metabolic rate at this time was reported as -22 per cent. This did not correspond with the clinical appearance and was later found to be an error in the determination. In spite of the satisfactory clinical appearance of the patient and the undoubted definite reduction in the metabolic rate, it was felt that resection of the left lobe should be done.

*Left lobectomy Cyclopropane anesthesia*  
March 7, 1938

*Operative Reaction*—A glance at Chart 10 is convincing of the fact that the operative reaction during the second stage is far less acute than it was during the preceding right resection. This is in accord



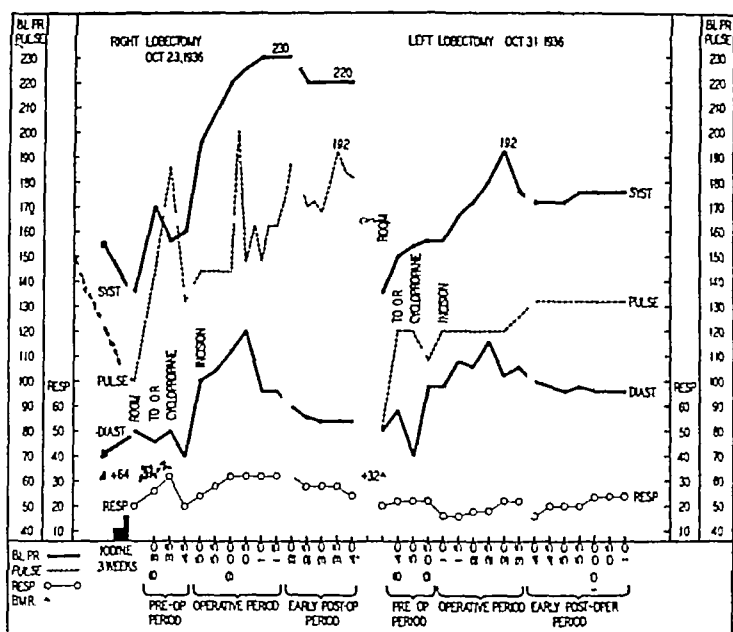


CHART 11 (CASE 11) Severe operative responses influencing the surgeon to adopt stage operations in exophthalmic goiter. Clinical symptoms were acute and the patient showed a high degree of hypersensitivity to the first operation even though a moderate clinical remission and a satisfactory fall of the metabolic rate had been obtained following the preoperative iodine. Preoperative basal metabolic rate  $+32.2$  per cent. Cyclopropane anesthesia. Note the milder responses during subsequent left lobectomy.

ance with the marked clinical improvement that followed the right lobectomy. The systolic pressure, while the patient is in her room and after the preliminary hypodermic administration of morphine, is 88 mm Hg. The psychic stimulus of transport to the operating room causes the pressure to advance to 130, it then increases to 138 shortly after the incision is made and then declines to its normal level of 130, which is maintained to the end of operation. The curve of diastolic pressure is approximately parallel to that of systolic pressure. It begins at 50, then increases to a maximum of 100, and thereupon returns to and is maintained at 96 mm Hg. The pulse pressure, which before the operation is 38, does not increase at any time during the operation, in marked contrast to the definite secondary augmentation of pulse pressure during the first-stage operation. The preoperative pulse rate is 76. It increases to 85 at the time of the incision, following which there is no further rise but rather a fall to the preoperative level that is main-

tained to the end of operation. The respirations increase slightly during the operation.

*Postoperative*—The postoperative reaction was uneventful. There was an entire absence of acute manifestations in marked contrast to the restlessness and nervousness following the right lobectomy. The greatest elevation of the pulse and temperature occurred on the second postoperative day when the pulse was 96, and the rectal temperature did not rise above  $100.2^{\circ}\text{F}$ . This response is to be compared with the sharp intense reaction following the first lobectomy and described above.

*Comment*—The stage procedure of right lobectomy, which it was felt was indicated because of the marked hypersensitivity of the patient while in the phase of acute iodine exacerbation, was followed by a strikingly marked improvement during the following four months. Thereupon left lobectomy was done, during which there was a mild operative response in marked contrast to the sharp

reaction seen during the first stage lobectomy. The postoperative period is similarly free of all manifestations of acute response. Thus acute iodine exacerbation often necessitates stage procedures in instances when the operative responses point to the possibility of a dangerous postoperative period were double lobectomy to be performed. The hypersensitivity is diminished by the first stage procedure and renders the second hemithyroidectomy virtually free of all dangerous sequelae.

STAGE OPERATIONS ON THE PATIENT WITH EXOPHTHALMIC GOITER ASSOCIATED WITH WHICH THERE IS A HIGHLY TOXIC HYPERTHYROIDISM AND A PERSISTENCE OF HYPERSENSITIVITY TO OPERATION EVEN THOUGH A MODERATE CLINICAL REMISSION AND A SATISFACTORY FALL OF BASAL METABOLIC RATE ARE OBTAINED FOLLOWING THE PREOPERATIVE TREATMENT WITH IODINE

*Case 11 Chart 11*—Dr H F aged 30 always of highly temperamental nature was first seen by me on October 19 1936 when he gave the following history. During the preceding four months his neck became larger and the acutely toxic symptoms of hyperthyroidism grew progressively worse. He lost 32 pounds in weight. The basal metabolic rate three weeks before he was first seen and before administration of iodine was +64 per cent. One week later treatment with Lugol's solution in doses of five to ten minims three times daily was instituted and continued for two weeks after which the basal metabolic rate decreased to +33 per cent. A fairly definite clinical improvement was noticeable.

Upon examination he was found to be extremely nervous, tremulous, and weak. Slight exophthalmos on the left was noted but the right eye appeared normal. A moderate, diffuse enlargement of the thyroid gland, which showed definite vascular signs was present. The pulse varied between 140 and 160. His weight which had been 165 pounds four months previously was now 135 pounds. Administration of Lugol's solution was continued for three days more in doses of ten minims three times daily after which the basal metabolic rate was again +32.2 per cent. A fairly good though not entirely satisfactory clinical remission was obtained. The pulse declined from 160 to 100 and the systolic pressure from 165 to 140.

*Right lobectomy Cyclopropane anesthesia October 23, 1936*

*Operative Reaction*—The systolic blood pressure rises from 135 to 170 mm Hg as the patient is transported to the operating room (Chart 11). Immediately following the start of anesthesia, there is a prompt and abrupt rise, which advances after the operation is begun and reaches a maximum of 230 mm Hg within twenty minutes. This high pressure is well sustained to the time of completion of the right lobectomy. The diastolic pressure increases sharply from 80 mm. Hg at the beginning of anesthesia and continues to advance to a maximum of 120 mm. Hg. Fifteen minutes later, during the latter part of the resection, a decline occurs and at the end of operation it is 90 mm Hg. The pulse pressure, which at the beginning of operation is 55 mm Hg, increases to 110 mm. Hg in the middle of the operation and then progressively augments to 135 mm. Hg at the end. (This progressive increase in pulse pressure is a significant fact.) The pulse rate, which normally was 150, subsides to 102 following the preliminary sedative treatment, then advances abruptly to 185 as the patient comes to the operating room. Thereupon a secondary fall occurs soon after the anesthesia is begun, to be followed promptly by a sharp rise to 200, fifteen minutes later. Again a fall is seen with a subsequent increase to 192 at the close of operation. The respirations increase from the preoperative level of 20 to 34 during operation and are maintained at this level to the end.

*Comment*—The sharp and sustained rise of systolic pressure, the progressive increase in the pulse pressure, the marked progressive and irregular increase in the pulse rate, and the definite increase in the respirations during operation indicate that there is a fundamental hypersensitivity that may persist even though an apparently satisfactory clinical remission and fall of basal metabolic rate are obtained by the preoperative treatment with iodine. Accordingly, the extremely brisk operative reaction acted as an admonition

of the likelihood of a sharp postoperative reaction, and the operation was consequently limited to right lobectomy

*Postoperative Reaction*—There is no tendency of the operative responses to abate during the first half hour following the close of operation and the blood pressure, pulse pressure, pulse, and respirations are maintained at their abnormally high levels

*Postoperative Period*—During the first twenty-four hours following operation the patient was highly nervous, restless, and uncomfortable. He vomited several times and was continually attempting to get out of bed. The highest rectal temperature was 101 F and the highest pulse 140. The postoperative reaction was considered to be definitely sharp, though not alarming. Accordingly, it is seen that an unusually sharp subjective and moderate objective postoperative reaction followed a sharp operative response. Treatment with iodine was continued and after the lapse of eight days the second-stage operation was undertaken. The basal metabolic rate was +32 per cent.

*Left lobectomy (second-stage operation). Cyclopropane anesthesia. October 31, 1936, eight days after right lobectomy.* There was a slight clinical improvement following the right hemithyroidectomy.

*Operative Reaction*—The systolic blood pressure (Chart 11), which is 136 mm Hg while the patient is in his room, rises promptly as he is taken to the operating room and at the time of the incision it is 156 mm Hg. Thereupon a sharp rise to 192 occurs at the time of completion of the resection, following which one sees a decline to 174 mm Hg at the close of the operation. A level of 176, definitely above the preoperative level, is maintained during forty-five minutes of the early postoperative period.

The diastolic pressure, beginning at 80 mm Hg, drops to 70 at the beginning of anesthesia, then rises promptly to a maximum of 116 within twenty minutes, or just before completion of the resection, and then declines to 100 mm Hg at the close of the operation. It is maintained at 96 mm Hg during the early postop-

erative period. The diastolic curve thus runs approximately parallel to the curve of systolic pressure. The pulse pressure at the start is 56 mm Hg and increases 20 mm Hg to 76 at the summit of the reaction, as compared with an increase of pulse pressure of 80 points during the right hemithyroidectomy. This slight increase during the second-stage operation is in accordance with the clinical improvement and the diminished sensitivity that followed the first operation.

The pulse rate before operation is 80, advances abruptly to 120 as the patient comes to the operating room, declines momentarily at the beginning of anesthesia, and then returns to the level of 120. Toward the close of operation it rises to 132 and is maintained at this level during the early postoperative period.

A comparison of the pulse and respiratory rates during the first-stage with those of the second-stage hemithyroidectomy illustrates in a convincing manner the diminished sensitivity of the patient consequent upon the resection of the first lobe. Respirations begin at the level of 20 and, with minor variations in rate, average 20 during operation. An increase to 24 is seen during the early postoperative period.

*Postoperative Course*—Aside from nausea and vomiting, which was more than ordinarily annoying, the patient was fairly comfortable. He was not excessively nervous or restless. The highest postoperative pulse was 128 and the highest rectal temperature 100.2 F. The blood pressure, which was 165 mm Hg as the patient returned to his room, dropped to 138 within six hours. The postoperative reaction was thus considered moderately severe, but of much less intensity than that observed after the first lobectomy.

*Comment*—A man, aged 30, suffered with an acutely toxic hyperthyroidism due to exophthalmic goiter and of four months' duration. There was no therapy with iodine. A rapid and marked loss of weight occurred. The basal metabolic rate before the preoperative administra-

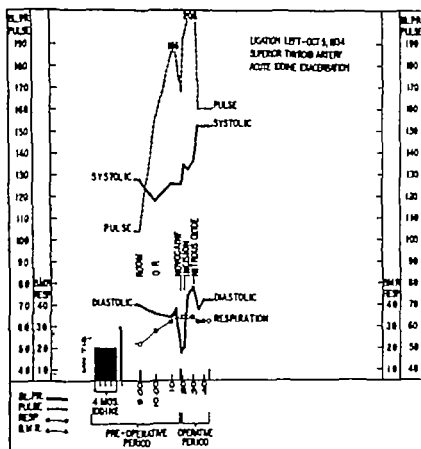


CHART 12 (CASE 12) Intense operative responses during ligation of left superior thyroid artery under novocaine anesthesia. Acute iodine exacerbation as a result of treatment for four months with varying amounts of iodine. Preoperative basal metabolic rate +25.3 per cent. The character of the operative responses is not related to the type of anesthesia employed

tion of iodine<sub>2</sub> was +04 per cent and after three weeks of treatment it decreased to +32 per cent. In spite of the satisfactory fall of the metabolic rate and the fairly definite remission of clinical symptoms thus obtained, the sensitivity of the patient was not correspondingly diminished, for an extremely sharp operative reaction occurred during right hemithyroidectomy. This forewarned the operator and accordingly the procedure was restricted to a first stage hemithyroidectomy. The postoperative reaction was brisk, as was anticipated from, and in keeping with, the operative reaction. It is accordingly evident that the fundamental hypersensitivity is not controlled in all cases by iodine to the same extent as are the metabolism and many of the clinical signs and symptoms. In other words, an unusual sensitivity may persist even when the clinical manifestations and the metabolic rate seem to have satisfactorily remitted following the administration of iodine.

Eight days after the first stage operation a left hemithyroidectomy is performed. As a result of the removal of the right thyroid lobe, a prompt diminution of sensitivity follows as is indicated by the decidedly milder operative reaction that occurred during the second-stage hemithyroidectomy. It appears from the operative response that had a double lobectomy been performed, a dangerous postoperative crisis might have been precipitated.

SEVERE OPERATIVE REACTIONS DURING LIGATION OF LEFT SUPERIOR THYROID ARTERY UNDER NOVOCAIN ANESTHESIA IN A PATIENT WITH EXOPHTHALMIC GOITER AND IN ACUTE 'IODINE EXACERBATION' AS A RESULT OF TREATMENT WITH VARYING AMOUNTS OF IODINE FOR FOUR MONTHS

Case 12 Chart 12—Miss E. G. aged 13 was first seen by me on September 20 1934 when she appeared in a state of acute postiodine exacerbation. Symptoms of hyperthyroidism began about seven months previously following

a cold. Four months later enlargement of the thyroid gland and exophthalmos were noted. She was seen four months after potassium iodide, presumably in saturated solution and in doses of one to twelve minims daily, had been administered by her physician. Progressively acute hyperthyroidism followed.

Upon examination the patient appeared extremely nervous, "fidgety." She exhibited jerky movements of the shoulders and trunk and complained of frequency of bowel movements. An unusually large, firm thyroid gland, which showed marked vascular signs, was found. Marked pulse and thrill were felt at the poles and over the gland, and definite bruits were audible. Exophthalmos was present. The pulse was 180 and a marked tremor of the hand was noted. She appeared to be in a state of acute severe "iodine exacerbation." Treatment with Lugol's solution in doses of eight minims three times daily was given for ten days without appreciable improvement in her general condition. The basal metabolic rate at this time was +25.3 per cent. Because of the failure to obtain any clinical remission, primary resection of the thyroid gland could not be entertained. Accordingly, on October 1, 1934, after ten days of treatment with iodine, the right superior thyroid artery was ligated under novocaine supplemented with nitrous-oxide gas. There was an unusually sharp operative response and the postoperative reaction was moderate. Four days later, on October 5, 1934, ligation of the left superior thyroid artery was done, the patient's condition having remained the same.

*Ligation of the left superior thyroid artery. Novocaine anesthesia supplemented with nitrous-oxide gas. October 5, 1934.*

*Operative Reaction*—Chart 12 graphically portrays the response. The systolic pressure, which normally was 128 mm Hg, drops slightly to 118 as she comes to the operating room, recovers, and advances abruptly to 152 mm Hg from the time of the infiltration of the skin to the end of the operation. The diastolic pressure, which at the beginning registers 70 mm Hg, falls to a level of 40, then rises to a peak of 78 during operation and at the end is 74 mm Hg.

The pulse pressure, which augments 30 mm Hg during operation, increases progressively from 58 at the beginning to 80 at the end.

The preoperative pulse is 105. It rises abruptly as a result of nervousness and apprehension to 186 and following the infiltration of the skin and during operation advances to 208, after which it declines to 160 at the end.

The respirations increase from 24 before operation to 35 during the procedure and at the end they register 32.

*Postoperative Reaction*—The reaction during the first forty-eight hours following the ligation was definitely active.

The highest temperature was 99.4 F and the highest pulse rate was 145.

Several illustrative facts are brought out by this case. A young girl with exophthalmic goiter had an exacerbation of symptoms while under treatment with potassium iodide in small doses over a period of four months. Further treatment for ten days with Lugol's solution failed to produce any appreciable clinical remission, though the basal metabolic rate was only +25.3 per cent. In view of the evidently severe hyperthyroidism, hemithyroidectomy is considered to be too extensive. Accordingly, preliminary ligation of the superior thyroid arteries is done in stages. The true hypersensitivity of the patient, in the phase of acute iodine exacerbation, is revealed in the extremely sharp operative reaction to the ligation of a single artery under novocaine anesthesia. The operative responses are no less intense under local anesthesia than when general gas anesthesia is employed. Even though the operative procedure is brief, a moderately active postoperative response follows. The preoperative basal metabolic rate of +25 per cent does not afford the surgeon a reliable criterion of the operability of such patients under the circumstances described. The extremely sharp reaction, during the ligation of a single artery, indicates further that an operation of greater extent, such as hemithyroidectomy, might readily have been followed by a dangerous postoperative crisis. Following the ligation operations, the clinical course continued to be acute and necessitated further stage procedures. Right hemithyroidectomy was performed nine days later and left hemi-

thyroidectomy was done after the lapse of six months. A satisfactory result was finally obtained. It seems without doubt that multiple stage operations were thus made necessary by the acute iodine exacerbation which was caused by the prolonged administration of potassium iodide and which could not be controlled by the further intensive preoperative treatment with large doses of Lugol's solution.

### Discussion and Summary

The operability of the patient with hyperthyroidism depends upon three principal factors. The hypersensitivity to operative procedures, the general clinical status, and the basal metabolic rate. This hypersensitivity expresses itself in the varying intensity of operative responses on the part of the systolic pressure, pulse pressure, pulse, and respirations. Many other physiologic responses have been observed in previous studies and are not of practical significance to the surgeon at the time of operation. The operative reactions are similar to those following the administration of adrenalin and it is accordingly believed that the hypersensitivity is, in a very large measure, an expression of the influence of adrenal activity during operation. Thus, by evaluating the operative responses, or in other words the influence of the adrenal factor, the surgeon is enabled to appreciate the degree of hypersensitivity present. This hypersensitivity has been shown to be, in a general way, proportional to the intensity of the hyperthyroidism present. If this were always true, the basal metabolic rate would be an infallible index to sensitivity and thus to operability. Unfortunately, however, the basal rate often fails to guide the surgeon adequately.

The postoperative reaction is very closely proportional to the intensity of the preceding operative response, which in turn is a visible expression of the sensitivity of the patient. Accordingly, by realizing the degree of hypersensitivity present, the surgeon is enabled to anticipate or foresee the intensity of the post-

operative response. The hypersensitivity, while in a general way proportional to the degree of hyperthyroidism as expressed by the basal metabolic rate, has been found to persist in a fair number of instances in which both the clinical status and the metabolic rate would appear to permit a double lobectomy with safety. However, such severe reactions may be noted early during the operation, that the surgeon is influenced to adapt the procedure to the patient's evident hypersensitivity and to restrict the extent of operation. Thus a dangerous postoperative crisis is avoided.

The basal metabolic rate, which is only one factor in the disease, is indicative of the degree of oxidation present at any moment and does not indicate the operative tolerance, which is primarily dependent upon the general hypersensitivity. Thus, it has been found that a severe reaction may follow thyroidectomy on a patient in whom there has been a good clinical remission following preoperative treatment with iodine and in whom the basal metabolic rate is well within safe limits. The metabolic rate is thus not an entirely reliable criterion of operability.

The common misuse of iodine in the therapy of hyperthyroidism has introduced complications in the determination of operability. After prolonged treatment of the hyperthyroid patient with iodine, the true operability may be obscured. In occasional instances of this kind it has been found that the metabolic rate may appear reasonably low, however bilateral thyroidectomy may precipitate a severe postoperative reaction, which could have been avoided by a stage procedure if the operator had had a proper appreciation of the true hypersensitivity. While the factor of hyperthyroidism may be reasonably controlled, the fundamental hypersensitivity may not necessarily be. When iodine in minimal doses is given over prolonged periods, when it has been administered in varying amounts, or when treatment with iodine has been frequently interrupted, a so-called "iodine exacerbation" commonly results. Further

a cold Four months later enlargement of the thyroid gland and exophthalmos were noted She was seen four months after potassium iodide, presumably in saturated solution and in doses of one to twelve minims daily, had been administered by her physician Progressively acute hyperthyroidism followed

Upon examination the patient appeared extremely nervous, "fidgety" She exhibited jerky movements of the shoulders and trunk and complained of frequency of bowel movements An unusually large, firm thyroid gland, which showed marked vascular signs, was found Marked pulse and thrill were felt at the poles and over the gland, and definite bruits were audible. Exophthalmos was present The pulse was 180 and a marked tremor of the hand was noted She appeared to be in a state of acute severe "iodine exacerbation" Treatment with Lugol's solution in doses of eight minims three times daily was given for ten days without appreciable improvement in her general condition The basal metabolic rate at this time was  $+25.3$  per cent Because of the failure to obtain any clinical remission, primary resection of the thyroid gland could not be entertained Accordingly, on October 1, 1934, after ten days of treatment with iodine, the right superior thyroid artery was ligated under novocaine supplemented with nitrous-oxide gas There was an unusually sharp operative response and the postoperative reaction was moderate Four days later, on October 5, 1934, ligation of the left superior thyroid artery was done, the patient's condition having remained the same

*Ligation of the left superior thyroid artery Novocaine anesthesia supplemented with nitrous-oxide gas October 5, 1934*

*Operative Reaction*—Chart 12 graphically portrays the response The systolic pressure, which normally was 128 mm Hg, drops slightly to 118 as she comes to the operating room, recovers, and advances abruptly to 152 mm Hg from the time of the infiltration of the skin to the end of the operation The diastolic pressure, which at the beginning registers 70 mm Hg, falls to a level of 40, then rises to a peak of 78 during operation and at the end is 74 mm Hg

The pulse pressure, which augments 30 mm Hg during operation, increases progressively from 58 at the beginning to 80 at the end

The preoperative pulse is 105 It rises abruptly as a result of nervousness and apprehension to 186 and following the infiltration of the skin and during operation advances to 208, after which it declines to 160 at the end

The respirations increase from 24 before operation to 35 during the procedure and at the end they register 32

*Postoperative Reaction*—The reaction during the first forty-eight hours following the ligation was definitely active.

The highest temperature was  $99.4^{\circ}\text{F}$  and the highest pulse rate was 145.

Several illustrative facts are brought out by this case A young girl with exophthalmic goiter had an exacerbation of symptoms while under treatment with potassium iodide in small doses over a period of four months Further treatment for ten days with Lugol's solution failed to produce any appreciable clinical remission, though the basal metabolic rate was only  $+25.3$  per cent. In view of the evidently severe hyperthyroidism, hemithyroidectomy is considered to be too extensive Accordingly, preliminary ligation of the superior thyroid arteries is done in stages The true hypersensitivity of the patient, in the phase of acute iodine exacerbation, is revealed in the extremely sharp operative reaction to the ligation of a single artery under novocaine anesthesia The operative responses are no less intense under local anesthesia than when general gas anesthesia is employed Even though the operative procedure is brief, a moderately active postoperative response follows The preoperative basal metabolic rate of  $+25$  per cent does not afford the surgeon a reliable criterion of the operability of such patients under the circumstances described The extremely sharp reaction, during the ligation of a single artery, indicates further that an operation of greater extent, such as hemithyroidectomy, might readily have been followed by a dangerous postoperative crisis Following the ligation operations, the clinical course continued to be acute and necessitated further stage procedures Right hemithyroidectomy was performed nine days later and left hemi-

adrenalin in the hyperthyroid patient. The intensity of these responses and the period for which they are sustained serve as an index of the hypersensitivity, which cannot in all cases be judged from the clinical data and the metabolic rate alone. The present studies indicate that the dominant factor in these responses is one of adrenal activity.

3 The postoperative reactions are remarkably proportional to the intensity of the operative responses, which reveal varying degrees of hypersensitivity. This increased sensitivity during the early period of operation when properly interpreted is a more reliable criterion of the extent to which operation can be safely permitted than the metabolic rate alone. The surgeon is thus enabled to anticipate the intensity of the postoperative reaction and to avoid crisis by resort to stage operations. The basal metabolic rate per se, frequently fails to reveal the true sensitivity of the patient.

4 The misuse of iodine in the treatment of toxic goiter frequently complicates the surgical treatment of hyperthyroidism by masking the fundamental hypersensitivity of the patient. A correct estimate of operability is therefore difficult to make.

### References

1. Goetsch, R., and Ritsmann, A. J. Jr. Arch. Surg. 29: 492-510 (1934)
2. Goetsch, R.: New York State J. Med. 18: 259 (1918)
3. (a) Cannon, W. B., and Cattell, McK. Am. J. Physiol. 41: 74 (1916)
- (b) Levy, R. L. Ibid. 41: 492 (1916)
4. Cannon, W. B. Am. J. Physiol. 33: 356 (1914)

### Discussion

Dr Martin B. Tinker, Jr., Ithaca, New York—At the outset of this discussion may I take occasion to felicitate Dr Goetsch on his timely and interesting presentation of an important proposition. Preliminary iodization has minimized the number and severity of reactions following thyroidectomy but it has failed to eliminate them which gives importance to the paper we have just heard

Dr Tinker Sr and I are in hearty accord with Dr Goetsch in regard to the emphasis which he places upon the behavior of the patient during the operation as a criterion of the degree of postoperative storm. It is however not infallible and in no way excuses thorough pre-operative investigation and study. We have observed that a close watch during operation is likely to be unreliable in patients previously treated with therapeutic x ray recurrent cases mostly from inexperienced operators as well as in those who are iodine fast.

Our observation coincides with that of Lahey who uses stage operations in desperate risk cases which constitute one third of his series. We expand indications for this method to include those presenting other doubtful or critical pictures: goiters of excessive size especially when associated with signs suggesting the presence of exophthalmic areas within the gland and patients with crippled hearts (auricular fibrillation, myocardial fibrosis as shown by B. K. G. coronary sclerosis or spasm etc.) we place in this category as likewise cases of advanced age (70 years plus). The factor of safety is greatly increased if these are done in stages.

Dr Tinker Sr first suggested that thyroidec-tomy could be done in stages and presented the idea in a paper before the American Medical Association in Los Angeles about 1912. Dr Lahey of Boston credits Dr Tinker Sr with this contribution and emphasizes its importance. It has not been adopted in the form originally proposed however. At any time when the condition of the patient seems poor we stop at once and place a pack of gauze wrung out in 1:1000 acriflavine under the flaps and suture the flaps over it with four or five doubled and interrupted stitches of fine black silk pulling portions of the gauze out through the interstices between the stitches. The advantages are that this arrests oozing or moderate hemorrhage allows for free drainage which seems to reduce toxicity and for getting out promptly. From five to seven days later when the febrile reaction has subsided we open the neck again. If the reaction has not been too severe, we remove the second side. Otherwise we merely close. The skin edges and granulations on the flaps are trimmed off prior to closure. We have had no severe and only occasionally mild infection following this procedure. The skin scar is usually surprisingly creditable.

Blood tests of 78,388 undergraduates in more than 500 American colleges indicate that 2 out

of every 1000 are infected with syphilis, according to the American Social Hygiene Association.



treatment with iodine is not followed by clinical remission, and the hyperthyroidism, as indicated by the basal metabolic rate, may appear to be reduced. These patients not uncommonly react badly to operation. They exhibit an augmented hypersensitivity that indicates their lack of tolerance to the commonly employed operative procedures. The misuse of iodine in the treatment of toxic goiter has accordingly necessitated the more frequent use of stage operations.

The indices of unusual hypersensitivity are an early *psychic rise* of blood pressure, pulse, and respirations when the patient comes to the operating room. This is followed by a further sharp and continuous increase to *unusual heights* of systolic and pulse pressures, pulse, and respirations after anesthesia is established and the incision has been made. Further characteristics of such hypersensitivity are a *sustained high level* of the responses beyond the first fifteen to twenty minutes of the operation. Particularly important here is a markedly increased and *sustained pulse pressure*. Such manifestations, which are commonly followed by intense postoperative reactions, are warnings to the surgeon who should then restrict operation to a stage procedure. Of these responses, the rises in *blood pressure* and *pulse pressure* are more significant than the increase in the pulse rate. They are incidentally characteristic expressions of the response of the hyperthyroid patient to adrenalin. In the average moderately toxic case of exophthalmic goiter, uncomplicated by other than the preoperative treatment with iodine and with a good preoperative clinical remission, these responses are moderate and are followed by only moderate postoperative responses and a comfortable convalescent period.

Severe postoperative reactions and even crises, practically without exception, have been proportional and subsequent to sharp operative responses. In other words, given a moderate response the surgeon may proceed with a double lobectomy without fear of a dangerous

postoperative crisis. When the early operative response is intense, he is accordingly warned. Postoperative crisis is a continuation and intensification of phenomena precipitated during operation and is thus in the nature of a magnified operative response. Both the operative response and postoperative crisis appear to be produced by the same stimuli.

The operative reactions are not greatly influenced by the different forms of anesthesia. Nitrous oxide, cyclopropane, light ether, avertin, and novocaine have been used. With rectal (basal) avertin there is an early fall of blood pressure and pulse but the period of depression is much shorter in the hyperthyroid than in the nonthyroid patient, and the stimulating influences of the operation on the blood pressure and pulse make themselves felt very soon. When local anesthesia is employed, the operative responses seem to be augmented over those seen when general anesthesia has been given. This is doubtless due to the factor of psychic stimulation and to emotional factors.

Clinical data and the basal metabolic rate are naturally very valuable criteria of operability. They are, however, not entirely infallible. Proper evaluation of the patient's hypersensitivity based on data gathered during the course of operation is a most valuable additional criterion of operability. Furthermore, a proper appreciation of this hypersensitivity is of great help to the surgeon in avoiding distressing and even dangerous postoperative manifestations. The occasional fatal postoperative crisis may thus be virtually eliminated.

## Conclusions

- 1 The operability of the patient with hyperthyroidism depends primarily upon the characteristic hypersensitivity to operative measures.

- 2 Certain physiologic responses are produced by operation in toxic goiter and are characterized by brisk increases in blood pressure, pulse pressure, pulse, and respirations. These responses are remarkably similar to those evoked by

adrenalin in the hyperthyroid patient. The intensity of these responses and the period for which they are sustained serve as an index of the hypersensitivity, which cannot in all cases be judged from the clinical data and the metabolic rate alone. The present studies indicate that the dominant factor in these responses is one of adrenal activity.

3 The postoperative reactions are remarkably proportional to the intensity of the operative responses, which reveal varying degrees of hypersensitivity. This increased sensitivity during the early period of operation when properly interpreted is a more reliable criterion of the extent to which operation can be safely permitted than the metabolic rate alone. The surgeon is thus enabled to anticipate the intensity of the postoperative reaction and to avoid crisis by resort to stage operations. The basal metabolic rate, per se, frequently fails to reveal the true sensitivity of the patient.

4 The misuse of iodine in the treatment of toxic goiter frequently complicates the surgical treatment of hyperthyroidism by masking the fundamental hypersensitivity of the patient. A correct estimate of operability is therefore difficult to make.

### References

- 1 Goetsch, R., and Ritzmann, A. J. Jr. Arch. Surg. 79: 492-510 (1934)
- 2 Goetsch E. New York State J Med 18: 259 (1918)
3. (a) Cannon, W. B. and Cattell, McK. Am. J. Physiol. 41: 74 (1916)
- (b) Levy E. L. Ibid 41: 492 (1916)
- 4 Cannon W. B. Am. J. Physiol. 33: 356 (1914)

### Discussion

Dr Martin B. Tinker, Jr., Ithaca, New York—At the outset of this discussion may I take occasion to felicitate Dr Goetsch on his timely and interesting presentation of an important proposition. Preliminary iodization has minimized the number and severity of reactions following thyroidectomy but it has failed to eliminate them, which gives importance to the paper we have just heard.

Dr Tinker Sr. and I are in hearty accord with Dr Goetsch in regard to the emphasis which he places upon the behavior of the patient during the operation as a criterion of the degree of postoperative storm. It is however not in fallible and in no way excuses thorough pre-operative investigation and study. We have observed that a close watch during operation is likely to be unreliable in patients previously treated with therapeutic x-ray recurrent cases mostly from inexperienced operators as well as in those who are iodine fast.

Our observation coincides with that of Lahey, who uses stage operations in desperate risk cases which constitute one-third of his series. We expand indications for this method to include those presenting other doubtful or critical pictures: goiters of excessive size, especially when associated with signs suggesting the presence of exophthalmic areas within the gland and patients with crippled hearts (auricular fibrillation, myocardial fibrosis as shown by E. K. G. coronary sclerosis or spasm etc.) we place in this category as likewise cases of advanced age (70 years plus). The factor of safety is greatly increased if these are done in stages.

Dr Tinker Sr. first suggested that thyroidectomy could be done in stages and presented the idea in a paper before the American Medical Association in Los Angeles about 1912. Dr Lahey of Boston credits Dr Tinker Sr. with this contribution and emphasizes its importance. It has not been adopted in the form originally proposed however. At any time when the condition of the patient seems poor we stop at once, and place a pack of gauze wrung out in 1:1000 acriflavine under the flaps and suture the flaps over it with four or five doubled and interrupted stitches of fine black silk, pulling portions of the gauze out through the interstices between the stitches. The advantages are that this arrests oozing or moderate hemorrhage, allows for free drainage which seems to reduce toxicity and for getting out promptly. From five to seven days later when the febrile reaction has subsided we open the neck again. If the reaction has not been too severe we remove the second side. Otherwise we merely close. The skin edges and granulations on the flaps are trimmed off prior to closure. We have had no severe and only occasionally mild infection following this procedure. The skin scar is usually surprisingly creditable.

Blood tests of 78,388 undergraduates in more than 500 American colleges indicate that 2 out

of every 1000 are infected with syphilis according to the American Social Hygiene Association.

# DIPHTHERIA OF THE PLEURA

WILLARD J DAVIES, M D , F A C P , Rockville Centre, New York

THE diphtheria bacillus as a rule is assumed to be a bacillus whose normal habitat is the nasopharynx and its immediate vicinity, but the report of the following case and a search of the literature shows that, although very rarely, it does infect the lungs and pleura. These are cases of frank empyema due to diphtheria bacillus and are not to be confused with the pleurisies, dry and serofibrinous reported with and after diphtheria. The latter, in great part, when proved by puncture are "almost always due to streptococcus."

Only 6 cases of diphtheritic empyema are reported in the medical literature. The first case was reported by Savy and Rendu<sup>1</sup> in 1912. This case was a boy of 5 years with typical diphtheritic membrane covering the uvula, tonsils, and pharynx. Culture was positive for diphtheria and antitoxin was given. Autopsy revealed an effusion on the right with a loculated empyema between the upper and middle lobe. Cultures showed the effusion to be due to diphtheria bacillus with staphylococci and streptococci in lesser amounts.

The second case was that of Goldschmidt<sup>2</sup> in 1920. His patient, a girl of 3 years, had a suppurating discharge from the nose, strongly suggestive, but true diphtheria bacilli could not be demonstrated. Two thousand units of antitoxin were given. The patient developed a consolidation of the left lower lobe and two weeks later an empyema developed that was positive for Loeffler's bacillus. Death occurred within thirty-six hours. A bacteriologic study of the pus showed streptococci and a diphtheria-like bacillus that was definitely identified as diphtheria bacillus culturally.

Lyter<sup>3</sup> reported the third case in 1925, and the first and only case to be reported in American literature to date. His case was a young girl of 16 years. Her initial

symptoms were cough, expectoration of mucopurulent sputum, chills, and fever. Two days later she had a marked laryngeal soreness with hoarseness. Eleven days later she had a sudden, severe, inspiratory pain in the right axilla. The sputum was sanguinopurulent and contained numerous diphtheria bacilli. This was confirmed by smear and growth on Loeffler's medium. The right pleural cavity was aspirated and greenish white pus was evacuated which proved to be diphtheritic by stain, guinea pig, and Loeffler's medium. The patient was given 20,000 units of antitoxin. Recovery followed in due course after thoracotomy.

The fourth case as reported by Irrmann and Schmidt<sup>4</sup> was that of a 51-year-old female who was admitted to the hospital for thoracotomy. Her husband had pulmonary tuberculosis. Pus was obtained on puncture from the right chest. The pus was very fetid, and examination showed diphtheria bacilli, as did the smear from the throat. Wicks were placed within the empyema cavity and saturated with antitoxin. The suppuration gradually ceased. Four months later a laparotomy was done and the surface of the intestine was covered with tubercles. This is a rare association of tuberculosis and diphtheria.

Vahala and Stolzova-Sutorisova<sup>5</sup> reported the fifth case. This case resembles the author's very closely. The patient, a man of 33 years, had a bronchopneumonia, followed by an empyema of the left thoracic cage. The bacterial examination at that time showed the presence of a mixed infection with enterococcus and pneumococcus.

The patient remained afebrile and was recovering. Two weeks after operation the wound became edematous and hard, and the surrounding parts of the wound became necrotic, were liquefied, and gave a very fetid odor. The secretion from the

surrounding parts and the pleural cavity was examined and diphtheria bacillus was found. Antitoxin was given without avail. Necropsy showed an involvement of the pleura, mediastinum, and pericardium from which diphtheria bacilli were obtained. The tonsils had been removed and neither the throat, pharynx, nor larynx showed any inflammatory change.

In 1932, Desmeules<sup>6</sup> reported the sixth case, that of a boy 5 years old, admitted to the hospital with a thoracic fistula on the right side. The fistula healed only to have an abscess reform one month later with a return of the fistula. A diagnosis of tuberculosis was made, though tubercle bacilli could not be found in the pus. However, the smear did show a streptococcus and a gram positive bacillus that proved to be diphtheria. A guinea pig was inoculated and died in thirty two hours, and the usual lesions of diphtheria were found. Smear of the throat was positive for diphtheria bacilli. Antidiphtheria serum was injected into the pleural cavity.

The seventh case is the one reported in this paper.

C. R. a white male aged 40 was admitted to South Nassau Communities Hospital October 23 1935 with a perforated gastric ulcer. He was operated upon soon after admission by the late Dr Holcomb. The perforation was closed and a drain inserted. The temperature rose to 103 F, but returned to normal within three days.

The temperature continued a spiking course and the patient complained of a cough. The white blood count on admission was 3,450 with 80 per cent neutrophils 14 per cent large lymphocytes, 5 per cent monocytes and 1 per cent basophiles. Successive urine examinations were negative.

One week later x ray showed a small effusion at the right base. Several days were allowed to follow the course of the effusion, but as it continued to form, aspiration was done November 6, 1935. The fluid showed gram positive cocci and a few gram positive diplococci. This was not elaborated upon. The culture showed staphylococci and streptococci.

Rib resection was done December 23 and a

transfusion of 300 cc whole blood followed. The emission from the thoracotomy wound continued to slough and enlarge.

Seen on January 6 1936 a large opening within the chest showed the lung and pleura shrunk within the cavity. The entire pleural cavity was covered with a thick dirty gray membrane. The edges of the incision were red and edematous. The stench from the discharge was extremely foul. Smears taken from the discharge and membrane were positive on smear and culture for Loeffler's bacillus. Cultures were taken to two laboratories for a check both were positive for diphtheria. A virulence test was not done.

Questioning of the patient revealed that he had had diphtheria as a youth. The patient expired January 18 1936.

The age incidence of diphtheria of the pleura varies from 3 to 51 years. No predilection for either sex is shown. All cases but 1 were diagnosed before death but no form of treatment seems to prevail, only 2 of the cases survived. Antitoxin was used in various forms in all but 2 cases. In 1 of the recovered cases, wicks saturated with antitoxin were placed in the empyema cavity. In the other, antitoxin was used and the chest drained.

In all the cases the pleuritis are latent and probably the diphtheria bacillus is a secondary invader. With the exception of the 2 recovered cases, the diphtheria infection was associated with streptococci of some type.

The author wishes to express his thanks to Dr R. H. Dixon, Miss Julia Hewitt, of the Nassau Hospital Laboratory, and to Mr Albert Gans, of the South Nassau Communities Hospital Laboratory.

## References

1. Savy and Rendu: *Lyon méd.* 110: 304 (1912).
2. Goldschmidt W. *Wien. klin. Wchnschr.* 33: 840 (1920).
3. Lyter J. C.: *M. Clin. North America* 9: 221 (1925).
4. Irrmann E. and Schmidt, E.: *Arch. méd.-chir. de l'app. respir.* 4: 121 (1929).
5. Vahala and Stolzova-Satoriova: *Esop. lék. žest.* 70: 348 (1931).
6. Desmeules: *Bull. Soc. méd. d. hôp. Universitaires de Québec* 33: 217 (1932).
7. De Guy and Detot: *Rev. mens. d. mal. de l'enfance* 24: 49 (1900).

First Medical Student "What's the idea in wearing my raincoat?"

Second M. S. "You wouldn't want your new suit to get wet would you?"—*Medical World*

# THE CLINICAL SIGNIFICANCE OF PRERENAL AZOTEMIA IN DIGESTIVE TRACT DISEASE

HENRY A. RAFSKY, M D , F A C P , and MICHAEL WEINGARTEN, M D , New York City  
(From the Lenox Hill and Beth Israel Hospitals, New York City)

**E**VIDENCE of kidney dysfunction, characterized by the presence of nitrogen retention, with or without a diminution in the urinary output, is not infrequently encountered in various diseases. In many of these patients the impairment of the renal function cannot be explained on the basis of intrinsic kidney damage. This form of nitrogen retention, which has been ascribed to causes affecting the circulation or composition of the blood before it reaches the kidneys, has been termed prerenal azotemia.<sup>1</sup>

In this paper we are primarily concerned with the presence of prerenal azotemia in diseases of the digestive tract. Although this renal aspect is encountered with comparative frequency in these affections, its clinical importance has not been sufficiently emphasized.

In 1913, Tileston and Comfort<sup>2</sup> noted the presence of an increased nonprotein nitrogen of the blood in intestinal obstruction. Fishberg,<sup>3</sup> as well as Wohl and Brust,<sup>4</sup> emphasized the importance of differentiating primary and secondary azotemia. Heyd<sup>5</sup> reported cases of "liver death," accompanied by an increase in the nonprotein nitrogen, after cholecystectomy. Wakefield, Mayo, and Borgen<sup>6</sup> described an enterorenal syndrome in 10 patients with intestinal symptoms and elevated blood urea. Christiansen<sup>7</sup> found hyperazotemia in intractable hemorrhages, and Clausen<sup>8</sup> reported the presence of marked nitrogen retention in cases of gross gastric hemorrhage.

The explanation for the development of prerenal azotemia is problematic. In patients with peptic ulcer who develop alkalosis as a result of excessive alkali therapy, kidney impairment is often thought to be due to the alkalosis. In patients with pyloric obstruction, evi-

dence of renal dysfunction has been explained by the loss of chlorides from the gastric contents, as a result of the vomiting, producing a hypochloremia. In gastrointestinal hemorrhages, the nitrogen retention has been ascribed to dehydration and increased protein absorption. Low arterial pressure, decreased renal flow, and increased protein destruction have also been advanced as causes for the development of prerenal azotemia in abdominal diseases. While no doubt the above mentioned factors do play important roles in producing prerenal azotemia in some patients, still their absence in many others makes it questionable whether the impairment of renal function can be explained solely on this basis.

While the pathogenesis of prerenal azotemia may still be problematic, certain factors are definitely known, namely, the dangers of prerenal azotemia, the importance of its recognition, and the therapeutic indications for its possible prevention and treatment. It is to emphasize these facts that we offer this presentation.

## Clinical Study

This study is based on a series of 43 patients suffering from digestive tract disease, who at some time during the clinical course showed evidence of nitrogen retention. The latter was determined by the estimation of the nonprotein nitrogen or urea nitrogen of the blood. The normal values of the former were regarded as between 25 to 40 mg and the latter as between 12 to 15 mg in 100 cc of blood. In some of the patients there was no disturbance of the urinary output, while in others a diminution of varying degrees was observed, and at times even an anuria.

was present. The specific gravity of the urine was high, as a rule, becoming lower as the nitrogen levels fell. Albuminuria and casts were not always present. Twenty nine of the patients were males and 14 were females. The ages ranged from 21 to 67 years. Twelve of the patients suffered from gross hemorrhages due to a duodenal or gastric ulcer, 9 had pyloric obstruction resulting from a duodenal ulcer, 2 had cholelithiasis, 5 suffered from severe enterocolitis, 3 had cancer of the stomach, 7 had intestinal tumors, 1 had atrophic gastritis and avitaminosis, 3 had hypertrophic gastritis with hyperchlorhydria, and 1 had a subacute pancreatitis.

In patients with gross gastric hemorrhages due to a peptic ulcer the non-protein nitrogen varied from 41 to 71 mg per 100 cc. of blood. The hemoglobin of the patients, upon admission to the hospital, ranged from 38 per cent (5.5 Gm.) to 71 per cent (10.3 Gm.). The nitrogen retention did not seem to bear any relationship to the degree of anemia. As, for example, patient I. B., with a hemoglobin of 38 per cent (5.5 Gm.), who had a nonprotein nitrogen of 48 mg., while patient M. H., who succumbed to a severe gastric hemorrhage, had a hemoglobin of 46 per cent (6.7 Gm.), and a nonprotein nitrogen of 71 mg. Recently, a patient with a severe bleeding ulcer was seen who had a hemoglobin of 47 per cent (6.8 Gm.), and a nonprotein nitrogen of 28 mg. The urine was negative in each case. A persistently high nitrogen in patients with gross gastric hemorrhages indicated a bad prognosis, even though they seemed to be improving clinically.

In patients with pyloric obstruction due to a peptic ulcer, the blood nonprotein nitrogen varied from 42 to 80 mg and the blood urea from 18 to 25 mg in 100 cc of blood. As a rule, a hypochloremia was present. The degree of kidney dysfunction seemed to bear a definite relationship to the amount of gastric retention, which was revealed by the roentgenographic examination. As, for example, patient H. A., suffering from a

prepyloric ulcer, who upon his first admission to the hospital had only a slight gastric retention, at which time the non-protein nitrogen was 42 mg. One year later the patient returned with a recurrence of his symptoms, the x ray examination showed a large gastric residue. This time the nonprotein nitrogen had increased to 80 mg.

Nine of the patients in this series succumbed from two to eight days after operation. The nitrogen levels in these patients varied from a blood urea of 23.8 to 142 mg in 100 cc. of blood. Five of the patients (3 with a duodenal ulcer in whom subtotal gastrectomy was performed and 2 with cholelithiasis, in whom cholecystectomy was done) presented after operation a clinical picture simulating that described as 'liver shock.' These patients, postoperatively, developed a rapid pulse, high temperature, cyanosis, diminished urinary output, and increasing blood nitrogen levels. The urine showed a trace of albumin and a few casts. The most pronounced case of nitrogen retention that was seen in any of the patients who succumbed after operation was observed in a Mrs. E. B., with cholelithiasis, on whom a comparatively simple cholecystectomy had been performed. Her urea nitrogen was 142 mg two days after the operation. In these fatal surgical cases the preoperative evidence of kidney dysfunction was comparatively slight, when present at all.

Evidence of marked dehydration, with comparatively slightly increased blood urea or nonprotein nitrogen, was observed at times in patients who were to be operated upon. As, for example, patient M. W., suffering from a duodenal ulcer, who had a hemoglobin of 136 per cent (19.6 Gm.). His urea nitrogen was 22.5 mg. After he received 5,000 cc. of fluid daily for three days, his hemoglobin dropped to 92 per cent (13.5 Gm.). He was then operated upon and a gastroenterostomy was performed. His urea nitrogen eventually went to 12.5 mg.

In patients who developed a post-operative prerenal azotemia and who re-

covered, the nitrogen retention levels returned to normal comparatively slowly, notwithstanding the fact that the proper measures were employed to combat the renal dysfunction. Even when the nitrogen retention was not very pronounced, it sometimes took as long as fourteen to eighteen days before a normal blood urea or nonprotein nitrogen was again present.

In patients with severe enterocolitis, an elevation in the nonprotein nitrogen levels was also observed. In 1 of the patients, a Mr J L, 45 years old, the nonprotein nitrogen of the blood was 120 mg upon his admission to the hospital. The blood chlorides were 450 mg. The specific gravity of the urine was 1,020, a heavy trace of albumin and a few granular casts were present. The blood count was hemoglobin 108 per cent (15.7 Gm), red blood cells 4,960,000, white blood cells 6,650, polys 81 per cent, and mononuclears 19 per cent. As soon as the diarrhea stopped, the water balance was restored, the nutritional disturbance was overcome, and the nonprotein nitrogen of the blood fell to 27 mg. The specific gravity of the urine went to 1,009, the albumin and casts disappeared.

The patients with obstructive tumors of the gastrointestinal tract and increased blood urea or nonprotein nitrogen did not show any unusual features. The following cases, however, did present interesting clinical data.

### Case Reports

*Case 1*—Mr L N, a 41-year-old male, entered the hospital complaining of pain in the epigastrium and the right lower quadrant which had been present at periodic intervals for the past fourteen years. In 1923, a Polya-Mayo resection had been performed at another hospital for a prepyloric ulcer. Since that time the patient had had periodic attacks of his ulcer symptoms, but repeated x-ray examinations revealed only a hypertrophic gastritis that was confirmed by gastroscopy. Upon the patient's present admission, the physical examination was negative. His gastric analysis showed a hyperchlorhydria with hydrochloric acid going to 75 units and the total acidity to 95 units, benzidine reaction was slightly positive for blood. The feces were negative for blood. The non-

protein nitrogen, upon admission, was 52 mg and the blood chlorides were 512 mg. The specific gravity of the urine was 1,020, few casts were present. The blood count was hemoglobin 82 per cent (11.9 Gm), red blood cells 4,800,000, white blood cells 12,100, polys 80 per cent, lymphocytes 18 per cent, and eosinophiles 2 per cent. The patient was treated by alkali medication but was not relieved until he received daily gastric lavages with a one-to-three hydrogen peroxide solution. The nonprotein nitrogen then gradually fell until on the day of his discharge it reached a level of 40 mg.

*Case 2*—M C, a 27-year-old white female was admitted to the hospital on January 2, 1938. She gave a history that she had not been eating well for the past year. The patient seldom felt hungry and often skipped meals. She had periodic attacks of nausea and vomiting during that time. Five days prior to admission she began to complain of a sore throat, difficulty in swallowing, and vomiting.

An attempt to swallow liquids or food was followed by vomiting of large amounts of greenish material. The vomiting stopped the day the patient was admitted. A history was obtained that the patient frequently indulged in alcoholic excesses. Physical examination revealed a well-developed and well-nourished female who looked acutely ill. The temperature was normal. The tongue was quite red. The throat was also red and parts of it were covered by a membranous material. The skin of the hands were rough and scaly, presenting the picture of a brownish scaly dermatitis that was pellagra like in appearance. The clinical impression was that the patient was suffering from an atrophic gastritis and avitaminosis. The blood count was hemoglobin 104 per cent (15.8 Gm), red blood cells 5,790,000, polys 90 per cent with 31 immatures, and lymphocytes 10 per cent. The blood chemistry on January 4, 1938, was urea nitrogen 90.9 mg, creatinine 3.1 mg, uric acid 7.3 mg, blood sugar 124 mg, and the carbon dioxide combining power of the blood plasma was 56.7 per cent by volume. The urine showed a specific gravity of 1,020, a trace of albumin and an occasional cast were present. The blood chlorides, examined three days later, were 445 mg. The patient was treated by the use of synthetic vitamin B<sub>1</sub> (thiamin chloride), liver extract, saline administered parenterally, and a high vitamin diet. The nitrogen retention gradually decreased so that on February 8, 1938, the blood chemistry was urea nitrogen 11.3 mg, creatinine 0.5 mg, blood sugar 82 mg, carbon dioxide combining power of the blood plasma 49 per cent by volume; and the blood

chlorides 478 mg. The blood count was hemoglobin 94 per cent (13.7 Gm.) red blood cells 4,600,000 white blood cells 11,400 polys 82 per cent with 3 per cent immatures, lymphocytes 18 per cent. The specific gravity of the urine fell to 1.012, the albumin and casts disappeared.

Case 3—S. K., a 60-year-old male entered the hospital with a history that for six days prior to admission he had suffered severe generalized cramps. He was nauseated and vomited everything he ate. He had had no bowel movement during the past six days. Enemas were ineffectual. A right herniotomy and a hemorrhoidectomy had been performed ten years ago. Physical examination revealed an elderly, poorly nourished asthenic, and slightly cyanotic male who looked acutely ill. A systolic murmur was heard at the apex and it was transmitted to the axilla. The blood pressure was 140/100. The abdomen was slightly distended soft, and somewhat tender throughout. No masses were felt. The liver and spleen were not palpable. The stool was clay colored and had a foul odor. Laboratory examination revealed the following: the nonprotein nitrogen was 60 mg. carbon dioxide combining power of the blood plasma 57.5 per cent by volume. cholesterol 115 mg. and the blood diastase 16 units. The blood sugar varied between 93 to 190 mg., rising on the day when the patient's temperature rose and falling to normal levels on the days when the temperature dropped. The leukocyte index was 9.1. The blood count was hemoglobin 100 per cent (14.5 Gm.) red blood cells 4,010,000 white blood cells 6,820 polys 71 per cent, lymphocytes 29 per cent mononuclears 8 per cent. The sedimentation rate was 2 mm. in forty five minutes. The Wassermann was negative. The urine showed a specific gravity varying between 1.012 to 1.032. glucose was positive at times, albumin was negative. faint traces of acetone were present and an occasional red blood cell was found. The urinary diastase was 63 units. The stools were negative for blood, bile, and undigested fat. enzymes were present. A flat plate of the abdomen was negative. Loewi's test was positive. The clinical history—fluctuating hyperglycemia, fatty stools increased urinary diastase, positive Loewi's sign, and the temperature suggested the presence of a subacute pancreatitis. Since the surgical division did not regard the patient as a good surgical risk, he was treated medically. The stomach and duodenum were decompressed with duodenal intubation. Saline and 5 per cent glucose were instilled into the duodenum and were also given intravenously. The patient's symptoms disappeared and he made an unevent-

ful recovery. The nonprotein nitrogen dropped to 37 mg. and the blood sugar remained normal. The urinary diastase fell to 16 units. Subsequent roentgenographic examination of the gall bladder and gastrointestinal tract were negative.

### Treatment

The treatment of prerenal azotemia in abdominal diseases consists first, in the removal of the cause, and second, in the use of measures to overcome the renal dysfunction. In patients with peptic ulcer who develop azotemia after excessive alkali therapy, the latter must be discontinued and antacids employed that will not disturb the acid base equilibrium of the blood. In these patients, as well as those with pyloric obstruction the alkalosis with its resultant hypochloremia can be combated by the use of saline administered parenterally. Peters and Van Slyke<sup>9</sup> are of the opinion that while chloride deficiency and consequent alkalosis are not unimportant effects of pyloric obstruction, they are of less importance than dehydration and base deficit, all of which can be overcome by sodium chloride solution.

In patients with gastrointestinal hemorrhages or profuse diarrhea, the dehydration was treated by the use of proctoclysis, hypodermoclysis, or venoclysis of saline or Ringer's solution containing 5 per cent glucose, in addition to what was permitted by mouth. Transfusions were advised when the hemoglobin went below 50 per cent (7.25 Gm.). The nutritional disturbance was overcome by the use of a liberal protein diet and the administration of vitamins by mouth or parenterally. It is not advisable to keep patients with bleeding ulcers on too restricted a diet when once the vomiting has stopped. This limited diet further weakens the patient and does not tend to decrease the blood nitrogen levels. In our experience, duodenal alimentation, in which about seven eggs, sixty four ounces of milk, four ounces of lactose, one or two liters of water, and vitamins B and C were given daily, or the Meuelengracht diet, which was employed in 3 patients, seemed



covered, the nitrogen retention levels returned to normal comparatively slowly, notwithstanding the fact that the proper measures were employed to combat the renal dysfunction. Even when the nitrogen retention was not very pronounced, it sometimes took as long as fourteen to eighteen days before a normal blood urea or nonprotein nitrogen was again present.

In patients with severe enterocolitis, an elevation in the nonprotein nitrogen levels was also observed. In 1 of the patients, a Mr J L, 45 years old, the nonprotein nitrogen of the blood was 120 mg upon his admission to the hospital. The blood chlorides were 450 mg. The specific gravity of the urine was 1,020, a heavy trace of albumin and a few granular casts were present. The blood count was hemoglobin 108 per cent (15.7 Gm), red blood cells 4,960,000, white blood cells 6,650, polys 81 per cent, and mononuclears 19 per cent. As soon as the diarrhea stopped, the water balance was restored, the nutritional disturbance was overcome, and the nonprotein nitrogen of the blood fell to 27 mg. The specific gravity of the urine went to 1,009, the albumin and casts disappeared.

The patients with obstructive tumors of the gastrointestinal tract and increased blood urea or nonprotein nitrogen did not show any unusual features. The following cases, however, did present interesting clinical data.

## Case Reports

*Case 1*—Mr L N, a 41-year-old male, entered the hospital complaining of pain in the epigastrium and the right lower quadrant which had been present at periodic intervals for the past fourteen years. In 1923, a Polya-Mayo resection had been performed at another hospital for a prepyloric ulcer. Since that time the patient had had periodic attacks of his ulcer symptoms, but repeated x-ray examinations revealed only a hypertrophic gastritis that was confirmed by gastroscopy. Upon the patient's present admission, the physical examination was negative. His gastric analysis showed a hyperchlorhydria with hydrochloric acid going to 75 units and the total acidity to 95 units, benzidine reaction was slightly positive for blood. The feces were negative for blood. The non-

protein nitrogen, upon admission, was 52 mg and the blood chlorides were 512 mg. The specific gravity of the urine was 1,020, few casts were present. The blood count was hemoglobin 82 per cent (11.9 Gm), red blood cells 4,800,000, white blood cells 12,100, polys 80 per cent, lymphocytes 18 per cent, and eosinophiles 2 per cent. The patient was treated by alkali medication but was not relieved until he received daily gastric lavages with a one-to-three hydrogen peroxide solution. The nonprotein nitrogen then gradually fell until on the day of his discharge it reached a level of 40 mg.

*Case 2*—M C, a 27-year-old white female was admitted to the hospital on January 2, 1938. She gave a history that she had not been eating well for the past year. The patient seldom felt hungry and often skipped meals. She had periodic attacks of nausea and vomiting during that time. Five days prior to admission she began to complain of a sore throat, difficulty in swallowing, and vomiting.

An attempt to swallow liquids or food was followed by vomiting of large amounts of greenish material. The vomiting stopped the day the patient was admitted. A history was obtained that the patient frequently indulged in alcoholic excesses. Physical examination revealed a well-developed and well-nourished female who looked acutely ill. The temperature was normal. The tongue was quite red. The throat was also red and parts of it were covered by a membranous material. The skin of the hands were rough and scaly, presenting the picture of a brownish scaly dermatitis that was pellagra like in appearance. The clinical impression was that the patient was suffering from an atrophic gastritis and avitaminosis. The blood count was hemoglobin 104 per cent (15.8 Gm.), red blood cells 5,790,000, polys 90 per cent with 31 immatures, and lymphocytes 10 per cent. The blood chemistry on January 4, 1938, was urea nitrogen 90.9 mg, creatinine 3.1 mg, uric acid 7.3 mg, blood sugar 124 mg, and the carbon dioxide combining power of the blood plasma was 56.7 per cent by volume. The urine showed a specific gravity of 1,020, a trace of albumin and an occasional cast were present. The blood chlorides, examined three days later, were 445 mg. The patient was treated by the use of synthetic vitamin B<sub>1</sub> (thiamin chloride), liver extract, saline administered parenterally, and a high vitamin diet. The nitrogen retention gradually decreased so that on February 8, 1938, the blood chemistry was urea nitrogen 11.3 mg, creatinine 0.5 mg, blood sugar 82 mg, carbon dioxide combining power of the blood plasma 49 per cent by volume, and the blood

## Discussion

A series of patients with diseases of the digestive tract was observed in whom evidence of prerenal azotemia was seen at some time during their clinical course. In most of the patients the normal function of the kidneys was restored.

The pathogenesis of prerenal azotemia is still problematic. Hypochloremia has often been advanced to explain the impairment of the renal function. However, notwithstanding the popular term "hypochloremic azotemia," a decrease in the blood chlorides is not a prerequisite for prerenal azotemia. In patient L N, the nonprotein nitrogen was 52 mg, while the blood chlorides were 512 mg. In patient J L, the nonprotein nitrogen of the blood was 120 mg, while the blood chlorides were 450 mg. On the other hand, a hypochloremia can exist without evidence of an azotemia, as was illustrated in a patient (Miss D D), who was suffering from a severe ulcerative colitis with six to ten bloody stools daily. In this patient the nonprotein nitrogen of the blood was 30 mg, while the blood chlorides were down to 333 mg.

Dehydration is one of the most frequent causes of prerenal azotemia. While often associated with excessive vomiting or diarrhea, dehydration may also occur without these symptoms. Wilbur and Snell<sup>13</sup> have emphasized the fact that deficiency states occur in gastrointestinal diseases due to an inadequate dietetic intake as a result of various digestive symptoms. When patients suffer from more or less constant abdominal pain or other gastrointestinal symptoms, they are apt to limit not only their food intake but their fluid consumption as well. In addition, a restricted diet will form less water due to the lessened food intake. These factors will bring on dehydration over a period of time, which may eventually result in nitrogen retention. Patient L N (Case 1), as soon as his pain was relieved, consumed sufficient food and fluids to restore his water balance and reduce his nitrogen levels. In Mrs M C (Case 2), who showed clinical evidence of a de-

ficiency state, the nitrogen retention was much more pronounced than one would expect from the amount of vomiting and the blood chlorides present. In this patient the markedly increased nitrogen level was probably due to dehydration, resulting from the lack of food and fluid intake over a long period of time. We must also remember that there are normal individuals who, as Ashe and Mosenthal<sup>12</sup> pointed out, take little fluid and who have a high normal blood urea nitrogen. If these individuals develop a disease of the digestive tract they are much more likely to develop prerenal azotemia in view of the already disturbed water balance.

Dehydration also plays a most important role in the development of postoperative prerenal azotemia. This fact cannot be emphasized too strongly, as its recognition will materially tend to lessen surgical mortality. Important as it is to maintain the water balance after operation, it is still more important to overcome water depletion before operation. Dehydration should be energetically combated before operation, even if the nitrogen levels are normal or only comparatively slightly increased as a marked degree of water depletion may exist in the tissues before there is evidence of nitrogen retention in the blood. If we wait to combat the water depletion until after the operation, when definite evidence of renal impairment is present, it may be too late to save the patient. For, as stated earlier in the paper, even in those patients who recovered after the development of a postoperative prerenal azotemia, the blood nitrogen levels returned to normal comparatively slowly, notwithstanding the fact that the necessary measures were employed. Maddock and Coller<sup>11</sup> demonstrated in their experimental normal individuals, who were dehydrated that when these subjects were restored to a normal water balance, the water supplied was first used to relieve the depleted tissues, secondly, for vaporization, and lastly, for kidney function.

The factors of dehydration and hypo-

to bring about a comparatively quicker recovery than the Sippy dietetic plan. The liberal protein diet did not increase the nitrogen levels but on the contrary seemed to decrease them comparatively more rapidly than when the Sippy régime was used.

In patients who are to undergo abdominal operations, signs and symptoms of dehydration should be looked for. The renal function as determined by the non-protein nitrogen or urea nitrogen of the blood and the concentrating power of the urine should be ascertained as a routine procedure. It must be borne in mind, however, that a normal blood nonprotein or urea nitrogen in these patients does not preclude the possibility of an azotemia after operation. The presence of an elevated nonprotein nitrogen of the blood, however, especially when accompanied by a comparatively high specific gravity of the urine, should be regarded as a danger signal and should be combated energetically even if the operation has to be temporarily postponed. In patients with vomiting or diarrhea, the blood chlorides and the carbon dioxide combining power of the blood plasma should also be determined.

The preoperative and postoperative maintenance of the water balance is essential if the dangers of postoperative azotemia are to be prevented. The amount of fluids that the patient will require before operation will vary with the type of case and the extent of the dehydration present. Excessive vomiting or diarrhea will increase an already existing water depletion. When a patient enters the hospital, the amount of dehydration present is rather difficult to estimate. This dehydration, plus the usual loss of fluids during the operation and the minimal water requirement of 3,500 cc. necessary during the first twenty-four hours after the operation,<sup>10</sup> must be taken into account when appraising the water balance preoperatively and postoperatively. Maddock and Collier<sup>11</sup> estimated that patients with serious dehydration were depleted of an amount

equal to approximately 6 per cent of their body weight. We found that a good working rule in the average case, in order to overcome dehydration before operation, was to supply fluid parenterally daily to the extent of 3 to 4 per cent of the body weight, although at times as high as 8 per cent was given, twenty-four to forty-eight hours before the surgical procedure. This parenteral fluid was administered in addition to that which was allowed by mouth. It is safer to give a little more than too little during this comparatively short preoperative period. The parenteral fluids were given by the intravenous drip method, the rate of flow being about 500 cc. per hour. Ringer's solution containing 5 per cent glucose was most often used for the parenteral administration. If the infusions had to be given for more than three days, Ringer's solution was alternated with 5 per cent glucose in distilled water. Transfusions may also be necessary before and after operation to prevent surgical shock, which may be accompanied by prerenal azotemia. As a rule, however, if the patient has been properly prepared before operation, a lessened amount of parenteral fluids will be necessary postoperatively although this, of course, will vary with each case.

In patients who are to be operated for biliary tract disease, another factor in addition to the water balance must be taken into account, namely, the glycogen saturation of the liver, for very often when gallbladder disease has been of long standing, there is an associated latent hepatitis that cannot be detected clinically or at operation. This latent hepatitis may be the cause of a postoperative azotemia. Therefore, a safe rule to follow before all gallbladder operations is to give carbohydrates liberally by mouth and also parenterally.

A venoclysis of about 1,500 to 2,000 cc. of Ringer's solution with 5 per cent glucose by the drip method seventy-two and twenty-four hours before the operation is advisable as a routine measure in all gallbladder cases.

## Discussion

A series of patients with diseases of the digestive tract was observed in whom evidence of prerenal azotemia was seen at some time during their clinical course. In most of the patients the normal function of the kidneys was restored.

The pathogenesis of prerenal azotemia is still problematic. Hypochloremia has often been advanced to explain the impairment of the renal function. However, notwithstanding the popular term 'hypochloremic azotemia,' a decrease in the blood chlorides is not a prerequisite for prerenal azotemia. In patient L N, the nonprotein nitrogen was 52 mg, while the blood chlorides were 512 mg. In patient J L, the nonprotein nitrogen of the blood was 120 mg, while the blood chlorides were 450 mg. On the other hand, a hypochloremia can exist without evidence of an azotemia, as was illustrated in a patient (Miss D D), who was suffering from a severe ulcerative colitis with six to ten bloody stools daily. In this patient the nonprotein nitrogen of the blood was 30 mg, while the blood chlorides were down to 333 mg.

Dehydration is one of the most frequent causes of prerenal azotemia. While often associated with excessive vomiting or diarrhea, dehydration may also occur without these symptoms. Wilbur and Snell<sup>12</sup> have emphasized the fact that deficiency states occur in gastrointestinal diseases due to an inadequate dietetic intake as a result of various digestive symptoms. When patients suffer from more or less constant abdominal pain or other gastrointestinal symptoms, they are apt to limit not only their food intake but their fluid consumption as well. In addition, a restricted diet will form less water due to the lessened food intake. These factors will bring on dehydration over a period of time, which may eventually result in nitrogen retention. Patient L N (Case 1), as soon as his pain was relieved, consumed sufficient food and fluids to restore his water balance and reduce his nitrogen levels. In Mrs M C (Case 2), who showed clinical evidence of a de-

ciency state, the nitrogen retention was much more pronounced than one would expect from the amount of vomiting and the blood chlorides present. In this patient the markedly increased nitrogen level was probably due to dehydration, resulting from the lack of food and fluid intake over a long period of time. We must also remember that there are normal individuals who, as Ashe and Mosenthal<sup>13</sup> pointed out, take little fluid and who have a high normal blood urea nitrogen. If these individuals develop a disease of the digestive tract they are much more likely to develop prerenal azotemia in view of the already disturbed water balance.

Dehydration also plays a most important role in the development of postoperative prerenal azotemia. This fact cannot be emphasized too strongly, as its recognition will materially tend to lessen surgical mortality. Important as it is to maintain the water balance after operation, it is still more important to overcome water depletion before operation. Dehydration should be energetically combated before operation, even if the nitrogen levels are normal or only comparatively slightly increased, as a marked degree of water depletion may exist in the tissues before there is evidence of nitrogen retention in the blood. If we wait to combat the water depletion until after the operation, when definite evidence of renal impairment is present, it may be too late to save the patient. For, as stated earlier in the paper, even in those patients who recovered after the development of a postoperative prerenal azotemia, the blood nitrogen levels returned to normal comparatively slowly, notwithstanding the fact that the necessary measures were employed. Maddock and Collier<sup>11</sup> demonstrated in their experimental normal individuals, who were dehydrated, that when these subjects were restored to a normal water balance, the water supplied was first used to relieve the depleted tissues, secondly, for vaporization, and lastly, for kidney function.

The factors of dehydration and hypo-

chloremia did not seem to account for the azotemic syndrome that developed in the patients who succumbed after cholecystectomy. Schutz, Helwig, and Kuhn<sup>14</sup> found in 4 patients, who died in uremia following cholecystectomy, severe damage to both the liver and kidney, even though there was no preoperative evidence of renal impairment. They concluded from this and also from experimental evidence, that the diseased liver produced a toxin that acted more or less specifically on the kidneys. A certain number of patients with gallbladder disease do show evidence of hepatitis. It is quite possible that a latent hepatitis that cannot be demonstrated may be stimulated by the operation, producing the severe picture of liver damage described by Schutz, Helwig, and Kuhn.<sup>14</sup> But we are not convinced that this damaged liver necessarily produces a toxin specific for the kidneys. For it is a known fact that in some of these so-called "liver deaths" after cholecystectomy, no definite renal pathology could be found, although nitrogen retention was present in the blood. It is a generally accepted procedure at the present time to give all gallbladder patients large amounts of glucose preoperatively to prevent the dangers of hepatitis and secondary renal dysfunction. Experience has shown that when the liver cells are "padded with glucose" before operation the postoperative mortality is decidedly lessened. The question that arises in some patients is whether the carbohydrates taken by mouth will be sufficient to accomplish this purpose. Many of these patients for various reasons will not take an adequate amount of glucose when told to do so. Furthermore, it is questionable in gallbladder patients whether a sufficient amount of the glucose will be absorbed from the small intestine as a result of the oral administration of the sugars. It has been shown experimentally that a lessened glucose absorption takes place in animals suffering from a deficiency of the vitamin B complex.<sup>15</sup> Many apparently normal individuals show varying degrees of mild vitamin deficiency.

It is therefore possible that patients who have been on restricted diets for a long period of time, as these gallbladder patients so often are, may have a greater degree of avitaminosis. It is likewise possible that this deficiency state, while subclinical, may be sufficient to interfere with the absorption of glucose from the small intestines. It is therefore advisable, in order to adequately protect the liver against the dangers of hepatitis and secondary renal dysfunction in gallbladder surgery, to give glucose parenterally as well as by mouth before the operation.

## Conclusions

- 1 Evidence of prerenal azotemia is comparatively frequently encountered in digestive tract disease.

- 2 The treatment of prerenal azotemia in these affections consists first, in the removal of the cause and second, in the use of measures to overcome the renal dysfunction.

- 3 Dehydration that gradually develops over a long period of time may be a causative factor in increasing the blood nitrogen levels in patients with digestive tract disease.

- 4 Therapeutic measures have been outlined to prevent or materially lessen the dangers of postoperative prerenal azotemia.

## References

- 1 Fishberg, A. M. Hypertension and Nephritis. Lea & Febiger, Philadelphia 1934, page 41.
- 2 Tilston, W., and Comfort, C. W. Arch Int Med 14: 620-649 (1914).
- 3 Fishberg, A. M. Bull N Y Acad Med 13 No 12, 710-732 (Dec.) 1937.
- 4 Wohl, M. G., and Brust, R. W. J Lab & Clin Med 20: 1170-1179 (Aug.) 1935.
- 5 Heyd, C. G. J.A.M.A. 97: 1847-1848 (Dec. 19) 1931.
- 6 Wakefield, E. G., Mayo, C. W., and Bagen, J. A. J.A.M.A. 104: 2235-2239 (June 22) 1935.
- 7 Christiansen, T. Acta med Scandinav 85: 333-345 (1935).
- 8 Clausen, J. Acta med Scandinav supp 78: 908-914 (1936).
- 9 Peters, T. P., and Van Slyke, D. D. Quantitative Clinical Chemistry, Baltimore, Williams & Wilkins Co 1932, page 1048.
- 10 Coller, F. A., and Maddock, W. G. Ann Surg 102: 947 (Nov.) 1935.
- 11 Maddock, W. G., and Coller, F. A. J.A.M.A. 108 No 1, 1-6 (Jan 2) 1937.
- 12 Wilbur, D. L., and Snell, A. M. Am J Digest Dis & Nutrition 4: 720 (1938).
- 13 Ashe, B. I., and Mosenthal, H. O. J.A.M.A. 108 No 14, 1160-1163 (Apr 3) 1937.
- 14 Schutz, C. B., Helwig, L. C., and Kuhn, H. P. J.A.M.A. 99: 633 (Aug 20) 1932.
- 15 Verzar, F. Schweiz med Wchnschr 65: 1093-1097 (Nov 16) 1935.

# IMPETIGO CONTAGIOSA COMPLICATED BY ACUTE NEPHRITIS

SEYMOUR H. SILVERS, M.D., Brooklyn, New York

(From Kings County Hospital)

IMPETIGO is so frequently encountered that complications of this skin ailment are rarely envisioned. The more local complications, such as pyoderma, abscess formation, lymphangitis, and gangrene are rarely encountered and hardly ever stressed. There is, however, a more serious internal complication of which few are aware and which should be kept in mind by physicians. Acute nephritis as a complication of impetigo contagiosa has not received the attention it warrants, yet impetigo ranks as one of the more important etiologic factors of acute nephritis.

The first report linking impetigo with nephritis was that of Salvioni,<sup>1</sup> who in 1879 reported from postmortem observation a case of glomerular nephritis with a generalized impetiginous eruption in which he saw a causal relationship. However, the relationship was not very clear, for he had not followed the clinical course of the case, nor was there any statement in his report on the treatment that the patient had received. Sirugues,<sup>2</sup> in 1881, reported cases in which he observed acute nephritis as a complication of impetigo of the head. Boyer<sup>3</sup> was able to find 7 cases of nephritis in which impetigo was the etiologic factor. Muller<sup>4</sup> saw a case of nephritis following an impetiginous eruption after vaccination. Fontane<sup>5</sup> stressed the fact that hematuria may be seen not infrequently in cases of impetigo in children. Brocq,<sup>6</sup> in his textbook on skin diseases, also writes of the possible kidney complication in impetigo. Guard<sup>7</sup> reported 2 cases of nephritis following impetigo. He observed that the nephritis cleared up as soon as the impetigo was cured. He also observed that nephritis may be present in

a very mild form and, therefore, overlooked. The prognosis in both his acute and mild cases was usually good. The first report on this subject found in American literature was by Phillips,<sup>8</sup> in 1910. He reported 2 cases of nephritis following impetigo and emphasized that it was the duty of the physician to examine the urine in all cases of impetigo in children, and that in nephritis of obscure origin, impetigo should be considered as a possible etiologic factor. In his first case, nephritic symptoms appeared eight days after the eruption first appeared on the chin. Farah<sup>9</sup> reported a number of cases of nephritis following impetigo, some mild and some severe. Sieben<sup>10</sup> saw a patient, aged 18, who developed acute nephritis after impetigo. Schaefer<sup>11</sup> stresses the favorable prognosis in acute nephritis following impetigo. Sutton<sup>12</sup> reported 5 cases of acute nephritis, all preceded by impetigo.

It is not always possible to determine in each case the etiology of acute glomerular nephritis. Students of kidney diseases are agreed, however, that in the great majority of cases the disease is a manifestation of an infection in some part of the body. Longcope *et al*<sup>13</sup> were able to demonstrate infection foci in 84 per cent of their series of cases of acute nephritis. Southby and Stanton<sup>14</sup> investigated acute nephritis in 103 children and found that 29 had tonsillar or peritonsillar infection preceding the onset of acute nephritis. In 27 cases no etiologic factor was discovered, 17 cases had impetigo, 15 were preceded by measles, 11 were preceded by pneumonia, and the remainder were due to a variety of causes. Hill,<sup>15</sup> in a similar study among 51 children, found that in 15 cases no

*Read at the Annual Meeting of the Medical Society of the State of New York  
New York City May 10 1938*

etiologic factor could be established, 14 were preceded by tonsillitis, 4 by scarlet fever, and 4 had impetigo. Lichtwitz<sup>16</sup> stressed the importance of skin infections as foci in acute nephritis. He collected 97 cases of acute nephritis in five years. Among these, 19 cases were due to pyoderms of the skin. Kaumheimer<sup>17</sup> found that among his series of 223 cases of nephritis, 21 were due to impetigo. He stressed the fact that skin infections play an important role in causing nephritis. He observed that older children were more vulnerable than infants. The prognosis in his cases was invariably good. Lindenstrauss,<sup>18</sup> too, observed that very young children were not as easily affected by impetigo nephritis as older children. He observed that impetigo nephritis is similar in its course to the acute nephritis following scarlet fever.

Since Tillbury Fox first described impetigo contagiosa as a distinct clinical entity, many observers have studied the causative organism. It is generally agreed that both the streptococcus and staphylococcus can be isolated from the lesion, but that in the majority of cases the streptococcus is the causative organism. Farley and Knowles<sup>19</sup> believe that streptococci can be isolated in all cases of impetigo. Hiemke<sup>20</sup> found that only 9.2 per cent of his series of cases yielded staphylococci, the rest showed streptococci on culture. Smith and Burky<sup>21</sup> studied 9 cases in children. In 6 cases they isolated a hemolytic streptococcus, and in 3 they found the staphylococci.

That impetigo contagiosa causes a generalized body reaction was shown by Towle and Swartz.<sup>22</sup> They studied the blood counts in 25 cases of uncomplicated impetigo. In 24 cases investigated, they found an increase in the white blood corpuscles of over 10,000 per cu mm. In 10 of these cases, the count was over 15,000.

## Case Report

M. A., a 17-year-old white schoolboy, entered Kings County Hospital on June 15, 1937, complaining of a generalized eruption of seven-days'

duration, hematuria of four-days' duration, and vomiting and diarrhea of three-days' duration.

He had always been well. The father had pulmonary tuberculosis, but did not live at home with the boy. The patient rarely had colds or sore throats. There was no history of scarlet fever, rheumatic fever, or of venereal disease. The tonsils and adenoids had been removed about a year before admission.

The present illness was not preceded by any cold or sore throat. One week prior to admission a "sore" appeared on the hand and face. This was diagnosed as a "ringworm" infection and treatment was prescribed. The eruption spread very rapidly and involved larger areas of the skin. Three days after the onset of the eruption, he began to pass red urine. Within another two days he began to vomit and had about four watery stools daily. The legs and face became swollen. There was no complaint of headaches or diplopia.

Examination revealed an acutely ill boy with a lethargic appearance. The pasty, edematous face was covered with numerous crusted, oozing, red lesions of varying size. Similar skin lesions were also present on both the upper and lower extremities and on the neck and ears. The legs showed edema. The pupils reacted to light and accommodation. The tongue was moist, and the teeth in fairly good condition. The tonsils were small, not red or inflamed, and the throat was negative for inflammatory lesions. The heart was of normal size, the sounds clear and regular, the rate normal. No murmurs were heard, the  $A^2$  was louder than the  $P^2$ . Blood pressure was 160/120. The lungs showed no abnormal findings. The abdomen was flat. No masses or fluid were felt. The genitals were normal. The reflexes were hyperactive. The boy appeared ataxic. There was present a bilateral Babinski.

The diagnosis was that of acute glomerular nephritis and impetigo contagiosa.

The roentgen diagnosis of the lungs on June 18 showed hyperventilation of lung fields with slight impairment of illumination of the left base. The pulmonary findings were considered secondary to the acute nephritis.

The urine was bloody on admission and had a specific gravity of 1.015. The albumin was 3+. The urine was loaded with white and red blood cells and showed granular casts. The abnormal urinary condition gradually cleared before the patient was discharged.

The urea nitrogen was 96 mg per 100 cc. of blood upon admission, and a week later increased to 180 mg. A week before the patient was discharged, the urea nitrogen was 40 mg. The

creatinine, on admission, was 1.8 mg increased later to 2.0 and was 1.36 upon discharge. Blood sugar was normal. Total protein per 100 cc of serum was 3.134 albumin 2.06 and globulin 0.474. Blood count on admission showed 65 per cent hemoglobin 3 720 000 r.b.c. 8 000 w.b.c. 64.6 per cent polymorphonuclear, 30 per cent lymphocytes 2 per cent large mononuclears and 4 per cent eosinophiles. The blood pressure on admission was 160/120 three days later was 150/110, and before discharge it dropped to 135/80.

The temperature range while in the hospital was between 100 and 101 F. Pulse rate ranged between 70 and 90 and respiration between 20 and 24.

Treatment in the hospital consisted of the application to the skin lesions of a 2 per cent solution of gentian violet twice daily. General treatment consisted of phenobarbital gr  $\frac{1}{2}$  and codeine occasionally. Fluid intake was restricted to 1,000 cc. daily. Diet consisted of salt-free and low protein foods. Rest in bed was enforced. Intake and output of fluid was constantly checked. The output was consistently greater than the intake. The patient gradually lost the edema, and the skin lesions cleared up at the same time.

The patient was discharged free of both diseases about five weeks after his admission.

### Comment

The incidence of acute nephritis following impetigo contagiosa is probably very small, yet it is important for the practitioner to be on the alert in a search for this complication. We have come to consider acute nephritis following throat infections as an established entity, yet the total number of such cases expressed on a percentage basis is probably not larger than the number of cases of acute nephritis following impetigo.

In most of the reported cases in which acute nephritis complicated impetigo, the eruption was usually severe and extensive. This was also borne out by our case, where the eruption was generalized. As a rule, the acute nephritis clears up as soon as the skin lesions disappear. Since most cases of impetigo are usually cured very rapidly, few, if any physicians examine the urine. There may, however, be some transitory kidney damage in a

considerable number of cases. This might be revealed if a systematic search were made. Thus, Guard<sup>7</sup> found that many cases of impetigo showed a transitory hematuria without other symptoms.

It is also worth while to note that mercury compounds, while very effective in the treatment of impetigo, should be used with care and forethought because of the possibility of additional mercurial damage to an already injured kidney.

### Conclusion

1 Impetigo contagiosa and pyodermic skin infections are important in the etiology of acute nephritis.

2 A case of acute nephritis complicating generalized impetigo is reported, with a review of the literature.

3 The prognosis of acute nephritis complicating impetigo contagiosa is usually good.

620 Bushwick Avenue

### References

1. Salvioni, G.: *Archivio per le Scienze Mediche* 3: No. 23 1-10 (1879).
2. *Surgery* Impetigo of the Head and Its Complications, 1881 Thèse de Paris quoted by Negib Farah, Thèse de Paris, 1918.
3. Boyer: *De l'Albuminurie Liée aux Irritations Cutanées* Thèse de Lyon 1883 quoted by Negib Farah, Thèse de Paris, 1918.
4. Müller, Jacob: *J. Kindh.* 31: 64-65 (1890).
5. Fontane, Joseph: *De l'Hématurie Rénale dans les Néphrites Chez les Enfants*, Thèse de Paris, 1933.
6. Brocq, L.: *Traité Élémentaire de Dermatologie Pratique*, page 744, 1907.
7. Guard, Yves: *La Néphrite dans l'Impetigo Chez l'Enfant*, Thèse de Paris, 1918.
8. Phillips, John: *The Cleveland Medical Journal* 9: 636-691 (Sept.) 1910.
9. Farah, Negib: *Contribution à l'Étude de la Néphrite Impetigieuse*, Thèse de Paris, 1918.
10. Sieben, H.: *Klinische Wochenschrift* 1: 896 (1922).
11. Schaefer Norbert: *Ueber die Impetigo Nephritis*, etc. Diss. Bonn 1933.
12. Sutton, Lee E., Jr.: *Southern Medical Journal* 27: 798-802 (1934).
13. Longcope W. T., O'Brien, D. P., Hansen, O. C. and Denny B. R.: *Journal of Clinical Investigation* 3: 7-30 (1927).
14. Southby Robert, and Stanton, B. L.: *The Medical Journal of Australia* 13: 127-133 (Jan.) 1928.
15. Hill, L. W.: *Amer. Journal of Diseases of Children* 17: 270-294 (1919).
16. Lächwitz, L.: *Die Praxis der Nierenkrankheiten 2nd Edition*, page 231, 1934.
17. Kaumhimer, L.: *Monatsschrift fuer Kinderheilkunde* 10: 138-163 (1912).
18. Lindenstrauß Herbert: *Die Impetigo-nephritis bei Kindern*, etc. Diss. Koenigsberg 1. Pr. 1932.
19. Farley D. L., and Knowles, Frank: *Arch. Dermat. & Syph.* 3: 755-756 (1921).
20. Hiemke, H. J. Th.: *Arch. Dermat. & Syph.* 170: 123-142 (1934).
21. Smith, and Burky: *Johns Hopkins Hospital Bulletin* 35: 78-81 (1924).
22. Towle, H. P., and Swartz J. H.: *Arch. Dermat. & Syph.* 9: 551-570 (1934).



# INDUSTRIAL EPIDIDYMITIS AND EPIDIDYMO-ORCHITIS

GEORGE E. SLOTKIN, M.D., F.A.C.S., Buffalo, New York

**T**HIS study is based on the observation that a paucity of information exists today regarding the occurrence of an acute epididymitis and epididymo-orchitis in industry, which is not due to direct trauma, is nonvenereal in origin, and is created by so-called "strain."

It seems somewhat strange that in the past five years some 30-odd cases have been collected in this series and no previous report of the existence of such a condition or the possibility of its relative importance, both to the employee and employer, is noted, except for a small notation by Hinman,<sup>1</sup> who says "Insurance companies, commissions of industrial medicine, and physicians regard acute affections of the testicle and epididymus arising on the basis of industrial injury or strain as primarily venereal and, therefore, nonindustrial. This is unfair to the workman. The prevalence of chronic gonorrhea does much to discredit such claims. It is the duty of the physician to differentiate the venereal exacerbations, for which they are not entitled to compensation, from the purely traumatic lesions to which they are entitled." Therefore, to promote further discussion on this important subject, this series of personal cases is presented.

Heavy industry seems to have been the chief offender. However, there is always a provocative background underlying the etiology of these cases. A recent symposium at the last meeting of the American Urological Association disclosed that the question of pyogenic prostatitis is a pertinent one. One must only refer to this subject to appreciate its importance.<sup>2</sup> Among the careful investigations Wesson<sup>3</sup> states that 25 per cent of prostatitis is nonvenereal, of these cases, 75 per cent have a remote

or recent history. Cumming and Chittendon<sup>4</sup> state "chronic prostatitis is a manifestation of a general focal infection. It must be located and eradicated." A. A. Kreutzmann,<sup>5</sup> in his experiment, determined conclusively that a reflux of urine into the vas may occur similar to the ureter. If the urine is sterile, no infection above takes place.

Mason<sup>6</sup> determined that the prostate is a toxic factor in trauma, 35 per cent of all men have prostatic trouble, 72 per cent of focal infections have secondary prostatic infection.

Wesson<sup>7</sup> in his summary declares that "traumatic epididymitis is due to a non-specific prostatitis and vesiculitis." All of the cases noted occurred in active workers, subjected to occupations requiring straining, tugging, or strenuous lifting. Pus is forced into the vas by action of the perineal muscles into the tail of the epididymus. In a similar manner, if the prostate only is involved in this previous infection, there is a reflux up the ejaculatory duct to the vesicle, which becomes infected, and then down the vas to the epididymus. The previously congested ejaculatory duct becomes impervious and the secretion is dammed back to the epididymus.

The cycle of events creating this disease is typical and dramatic. The patient has been employed in his present vocation for some time. Suddenly during these routine duties, while lifting or moving some heavy object, and without a direct blow, a sudden stabbing pain is felt in the groin on one side, immediately incapacitating the patient from continuation of his work, or under difficulty if attempted. Later, or on the following day, he notices a dragging in his scrotum which is aggravated by bending, lifting,

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 10, 1938*

or standing, and upon his own inspection it is noted that the scrotum is swollen, tender, and hot. The symptoms are sudden in onset, the strain similar in all cases, and the cause of disability uniform. Disturbance of urination is variable, slight dysuria and some frequency being the chief complaint, when it occurs. Some of the patients attempt to continue work and can do so, others cannot, depending upon the amount of disability. Usually these cases have been reported to the plant physician within a few days, depending on the extent of the involvement and the amount of disability created.

There is no argument, I believe, that hundreds of similar cases have occurred with inequity to the employee. The controversy is to establish a definite cause and relation of the disability to the alleged indirect injury. I believe that in spite of the apparent disability, hundreds of cases have been overlooked because the relation to employment has been slighted. These patients have been unjustly ignored and disbelieved, most unfortunately, because the disability is rather fleeting, and not permanently disabling, they have wrongfully been slighted. When a testicle is lost, I believe the time has arrived to establish this disease as a definite clinical entity, despite the occasional controverted case and refusal to assume liability of such a condition.

It is of primary importance to eliminate the previous or present existence of venereal infection. These cases must be definitely nonspecific in character and only by careful bacteriologic study of the urine and prostatic and vesicular smears can this fact be established. The chief offenders were found to be, first staphylococcus groups, second bacillus coli third streptococcus. The condition is always secondary to a previously existent, quiescent, nonvenereal vesiculitis or prostatitis with some extraurologic focus. A careful and painstaking history must be obtained. The truthfulness of the patients' statements and a primary focus sought in the teeth tonsils, throat,

chronic infected hemorrhoids, or a previously acquired furuncle will supply this.

The urine always contains pus cells in varying degrees, and these must have been present previous to the inception of the disease. It could have been detected if the employee had been carefully investigated previous to his employment and at stated intervals during this period. I have pleaded for several years with the carriers to have such careful urinalysis routinely, because of the failure to obtain such an examination the present morbidity exists. This is one of the important prophylactic measures neglected and should be established routinely if further cases are to be avoided.

The cycle of events in the pathology developed is analogous to that of the complications following a venereal infection in its extension. There exists a previous low grade, symptomless, and overlooked prostatitis and vesiculitis. A low grade pyuria is present in the urine. A sudden indirect strain or jar forces the infected material either into or from the vesicle down the vas to the tail of the epididymis, the ejaculatory ducts, which have previously been draining the vesicle sufficiently, are aggravated by the sudden pressure and strain to which they are subjected by the unusual lifting, become congested, and close. A nondraining cul-de-sac is thus created and an acute swelling and an acute inflammation of the epididymis, testes, or both results.

Examination discloses the typical signs of such an involvement: white blood cells in the urine and a large, tender, swollen epididymis on the side involved. There is variable urethral discharge. The question of gonorrhea must immediately be discounted by smear and culture, and the disease probably catalogued as a nonspecific one. The urinary symptoms may or may not be aggravated, depending on the amount of drainage and the size of the vesicles and prostate. A smear of the expressed material from these parts discloses clumps of pus cells and in addition, a voided specimen of urine after such a stripping contains

myriads of purulent shreds, plugs, and debris

Of the 33 cases in this series, the age incidence covered the span of from 19 to 62 years. One was 19, 3 under 30, 10 from 35 to 40, 10 from 45 to 50, 6 from 50 to 55, and 3 from 60 to 63—an average age incidence of 45 years. One was an unmarried youth of 19, who vehemently denied any sexual intercourse, 3 were unmarried, 4 were widowers with families, 25 married with families.

A volunteered history of previous gonorrhea was obtained in 2 cases: 1 aged 50, the other aged 42. Both were married and the fathers of 2 and 3 children, respectively, and had their specific infection 28 and 18 years before, respectively. Thirty-one absolutely denied any previous infection. Five of the cases had an accompanying scanty urethral discharge that was negative for the presence of gonorrhea, both by Gram stain and culture. The urine was cultured and smears obtained from expressed secretion from the seminal vesicles and prostate in all cases. Four showed streptococcus anhemolyticus, 21 showed staphylococcus albus, 5 showed pure *B. coli*, and in not a single case was a positive smear or culture for gonorrhea obtained.

Every case disclosed pus cells in the urine to a varying degree from a minimum of single pus cells of 5 to a field to clumps and myriads of clumps. Twenty-five of the 33 cases disclosed disturbance of urination, varying from frequency and dysuria of every hour, both day and night, to only a nocturia of twice a night. Three of the cases disclosed terminal hematuria and tenesmus after voiding, in 2 of these the streptococcus was the offending organism. The disability varied from a minimum of two weeks to six weeks, with an average of three weeks for complete resolution and ability to return to work.

One case, the 19-year-old neophyte, developed the severest condition. He went on to the formation of an abscess in the testicle, which required extirpation. All of the cases received subsequent treat-

ment to the seminal vesicles and prostate with rapid response and evacuation of its infected contents. Foci of infection were found in 32 cases out of 33. The single exception was again in the 19-year-old boy.

As so frequently happens in individuals of the laboring class, disorders of the teeth were prominent, varying from infected gold caps, diseased broken roots, and dental caries, to a greater or less degree in all of the cases. Infected tonsils were noted in 6 of the cases, with the ability to express purulent material from them and the complaint of recurrent sore throat. One gave a history of a recent attack of marked furunculosis four months previous to the onset of the condition.

The treatment is threefold: the relief of the acute symptoms, draining the seminal vesicles and prostate of its contents, and the removal of all foci of infection. The strain on the cord can be relieved by rest in bed, or if the patient is ambulatory, the application of a proper fitting suspensory or a Bellevue binder. The injection of calcium gluconate or calcium levulinate (10 cc of the 10 per cent solution) intravenously daily, gives ready and immediate relief. Proper massage and stripping to establish drainage to the prostate and vesicles is indicated immediately. I have not used sulfanilamide in these cases where the organism is a streptococcus or staphylococcus, as I found it unnecessary. The condition is self-limited, responds rapidly in from two to three weeks, and in only 1 case have I found it necessary to employ surgery. The total disability of the patient is less than four weeks and I have seen no cases of permanent disability arising from the condition.

A typical case history with development of the most aggravating symptoms, would, I believe, be of interest.

This is the youngest boy in the series, aged 19, employed as a machinist, who states that six days before he was seen he had been working all day pulling on some heavy wrenches, and while

walking home had noticed a severe pain in the right testicle. This continued all night and the following morning on reporting to work he found that the pain and swelling had become so severe as to prevent him from further employment. He made a report to his boss and has been home since. The past history of this young man shows that he has always been in good health has never had any serious illness or operations, had his tonsils removed at the age of 8. He states that eight weeks before his present trouble he suddenly developed frequency which steadily became aggravated until a terminal hematuria with severe dysuria developed. He consulted a physician and was treated expectantly with gradual improvement of his condition until complete disappearance of all symptoms two weeks previous to the development of the present condition.

This boy absolutely denies sexual exposure at any time. When I saw him he had a temperature of 101.2 F and there was no evidence of hernia. A voided specimen of urine was cloudy, containing no albumin or sugar but loaded with white blood cells. He had frequency every two hours and nocturia once. The right scrotum was enormously enlarged by an acute suppurative orchitis with secondary edema of the cellular tissues surrounding the scrotum and extending over to the left side. The seminal vesicles could be felt. The prostate was soft full and boggy. His tonsils are out, his throat was clean, and there was no evidence of infected foci. The patient was sufficiently ill to warrant hospitalization.

He received routine treatment while in the hospital by suspension of the scrotum intravenous injections of calcium levulinate (10 cc 10 per cent daily) but with only moderate response. Within ten days a pointing abscess developed in the testicle which was incised and drained. A culture at this time showed a pure staphylococcus albus. Within a week he had 2 draining abscesses and it was then decided because of the suppurative orchitis present, to perform an orchidectomy. His urine cleared immediately after the orchidectomy. Pathologically the testis disclosed a suppurative epididymitis and orchitis. Within ten days he was discharged as cured. He subsequently received prostatic massage over a period of five weeks, at which time his urine was absolutely negative chemically and microscopically.

In spite of the clear-cut history of injury, the disability involved and the destructive pathology that resulted, this

case was controverted by the industrial commission most unjustly, I believe, to the employee. It is, however, under appeal at the present time, and should, in fairness to the patient, be decided in his favor.

### Summary

A study is presented, based on the observation that epididymitis and epididymo-orchitis can occur in industry as a result of a strain that is definitely nonvenereal in origin and not due to a direct blow. The premise is based on the study of 33 cases observed over a period of several years, and verifies that conclusion. In fairness to the employee and employer, a careful inquiry and study must be made in this type of case to clarify it properly as industrial or nonindustrial.

A more painstaking examination should be made of all candidates for employment by the plant physician or other delegated person, with a careful survey of focal infections and urinalyses. If found positive, the applicant should be advised of the condition and corrected before employment. Only by this means can the morbidity of this industrial disease be controlled.

### Conclusions

- 1 Nonvenereal, nontraumatic epididymitis and epididymo-orchitis from strain is a distinct and definite entity, occurring in industry.

- 2 Many such cases have in the past been ignored or overlooked.

- 3 In justice to the employee, a careful preliminary examination at the time of his application must be made to avoid future disabling accidents involving the genitourinary tract.

- 4 Unless proved otherwise, the employee should receive the benefit of the doubt as to the fundamental basis and causative factors for this condition.

- 5 A pre-existent prostatitis and vesiculitis, or both, and the presence of a low grade pyuria is provocative in the development of this disease.

Medical Center Building

## References

- 1 Hinman Oxford Urologic Surgery, Oxford University Press, New York edition 746, page 221
- 2 J Urol, 39 2 pp 11-162
- 3 *Ibid*
- 4 *Ibid*
- 5 *Ibid*
- 6 Mason, Alexander Industrial Medicine, December 1933
- 7 Wesson J Urol, 39 2 pp 11-162

## Discussion

Dr Allen L. Parlow, M.D., Rochester, New York—Dr Slotkin has presented a subject that is definitely of interest to every man practicing medicine in an industrial community. I wish to congratulate him on the excellent presentation of his paper, the manner with which he has approached the subject, and the well-drawn conclusions that he has reached.

In my experience, a true epididymo-orchitis has been rather uncommon. This type of condition always follows direct trauma and man seems most fortunately able to protect himself from blows on the testis. Crane,\* in 1935, reporting on 100 consecutive cases of industrial affections of the epididymis and testis, found only 3 that could be definitely called a true epididymo-orchitis. The remainder of his series were all infections of the epididymis, the infection having been carried along the vas from previously infected seminal vesicles. Dr Slotkin has reported only 1 case of epididymo-orchitis in his series of 30 cases. It is obvious here that the involvement of the testis followed the development of an abscess of the epididymis. It should be emphasized that nongonococcal infections of the epididymis are very apt to rapidly cause an abscess, with secondary invasion of the testis. Early recognition of the presence of an abscess and immediate drainage is the only manner in which the testis may be saved. The entire series reported by Dr Slotkin is composed of cases in which infection has been carried from the seminal vesicles along the vas to the epididymis. Infection then is the inciting factor. I feel that it is most essential, therefore, to differentiate early between epididymitis and epididymo-orchitis.

The prostate and seminal vesicles become infected in a great variety of ways. Gonococcal infection of the urethra, of course, is the most common manner. Obstructions to the output of urine from the bladder, such as hypertrophy of the prostate, contracture of the vesical orifice, median bar, stricture of the urethra, etc., are all accompanied by prostatovesiculitis. Of course, to these most frequent causations must be added

infected urine descending from the upper urinary tract, urethral instrumentation, sexual strain, prostatic calculi, and metastasis from foci of infection.

The bacteria-producing prostatovesiculitis are of special interest. The gonococcus, the staphylococcus aureus and albus, the streptococcus, the colon bacillus, and the tubercle bacillus are the most commonly found organisms. It is uncommon to find the gonococcus in the prostatic secretion of an infected individual after three years. After that time it is usual to find that the infecting organisms are the staphylococcus and the colon bacillus, i.e., a mixed infection. In hematogenous infections of the prostate the infecting organisms are, of course, the staphylococcus, the streptococcus, and the tubercle bacillus. I note with interest that in his series of cases Dr Slotkin has obtained a pure culture in each case. It is also noteworthy that he was able to find a focus of infection in all cases but 1. To definitely state, however, that these cases were all secondary to the foci of infection demonstrated to have been present, I feel that the organisms obtained by smear and culture of the urine and prostatic secretion should also have been proved by similar methods to have been present in the designated foci of infection. Without this information one cannot be definite as to the mode of introduction of the bacteria into the prostate and the seminal vesicles.

It has been my experience that by far the greater number of individuals suffering with epididymitis are able to recall a strain or a blow obtained while carrying out some form of labor. One must be most careful, therefore, to procure a history of injury and an accurate past history when dealing with a working man. Later, when the epididymitis will have subsided, it is most essential to rule out obstructions or infection elsewhere in the urinary tract. All foci of infection must, of course, be removed and cultured because on this information alone can one determine whether or not the prostate and seminal vesicles were infected by the hematogenous route. I have yet to see a patient having epididymitis of a nontuberculous nature in which the individual did not have a co-existing prostatovesiculitis.

I agree with Dr Slotkin that many working men are discouraged from seeking compensation for acute affections of the epididymis on the basis that these affections, in the main, are venereal. On the other hand, many, many cases in which a definite venereal history has been obtained have been given compensation on the ground that a strain suffered while working

\* Crane, Jay J. Epididymo-orchitis in Industrial Surgery J Urol, 34 477 (1935)

produced an exacerbation of the pre-existing lesion namely the expression of pus from the prostatic urethra or seminal vesicles along the vas to the epididymis. The only manner that I know of that will prevent these injustices on either side is to have all employees given a thorough periodic physical examination.

Dr William J Kennedy, *Gloversville New York*—Dr Slotkin's paper, dealing with this rather controversial subject, is especially timely in view of the recent changes in the medical care of compensation cases. Until recently almost all claims for this type of injury were treated by industrial surgeons and rarely seen by the urologist.

I have several times in compensation hearings heard the existence of traumatic epididymitis enthusiastically affirmed by general surgeons and denied with equal enthusiasm by urologists.

About ten years ago Wessen, under title of "Traumatic Orchitis, A Misnomer" analyzed 70 cases of alleged testicular injury but was unable to convince himself that trauma was a causative factor in a single case.

More recently Crane found 3 authentic instances in 100 consecutive alleged claims.

It has been my practice when investigating testicular injuries to look for certain well defined diagnostic criteria

- 1 A history of definite direct trauma.
- 2 Visible evidence of scrotal trauma
- 3 Severe pain that is immediately disabling
- 4 Some degree of shock.
- 5 Involvement of both the testis and epididymis.

Obviously a diagnosis made on these points

excludes cases in which strain is an alleged etiologic factor.

Men engaged in heavy industry are constantly subjected to strain and slight trauma and sometimes honestly attribute to injury such lesions as testicular tumor, spermatocele, early tuberculosis and syphilis of the testis the prior existence of which they were unaware until attention was focused thereon by some slight trauma or strain.

In the case of the 19-year-old boy mentioned by Dr Slotkin it seems to me that there may be some doubt regarding trauma as an etiologic factor.

Eight weeks prior to his present disability he presented a chain of symptoms that may well have been due to an acute prostatovesiculitis which subsided under expectant treatment, but no evidence is presented that the prostate and vesicles were free from infection. This might easily be merely an acute exacerbation entirely independent of any trauma.

In compensation hearings the question invariably arises whether or not a pre-existing pathologic condition could have been aggravated by the alleged trauma or strain. It has long been accepted practice to prohibit strenuous physical activities in persons suffering from gonorrheal prostatovesiculitis or posterior urethritis in an effort to prevent the infection extending through the vas to the epididymis. It makes no difference whether the organism is the gonococcus, staphylococcus or colon bacillus—the mode of extension is the same in each instance.

Therefore, if our assumption that excessive physical activity predisposes to extension of infection in venereal prostatovesiculitis is correct, it seems to me that it is not unreasonable to assume that the same factors may produce an extension in nonvenereal infection.

## THE FAMILY DOCTOR AND CANCER

While surgery and radiology are contesting ownership in the meager salvage of cancer victims the general practitioner is standing on the sidelines and wondering where he comes into the cancer picture. Unless he has performed the fifty major operations required to secure the benediction of the American College of Surgeons, or owns a roentgen ray machine and a few milligrams of radium all too often his function seems to be limited to signing a yellow sheet negotiating with the mortician, and condoling with the family. Moreover when all the bills have been paid for surgical skill, radiation hospital charges, nursing and burial there is often little left in the estate to recompense the family doctor for merely finding the case

and forwarding it along orthodox channels.

Yet to the thoughtful alert physician there are still some important services and substantial rewards in the cancer field if one regards the problem from a broader standpoint.

The physician can perform a service of extreme value by informing himself about the results of treatment which may be available to his patient. He can thus advise or prevent unwise efforts to cure advanced cancer may substitute palliative for aggressive measures select good surgery instead of poor radiation or vice versa, and, in general exercise a wise disinterested control of the fate of his patient which after all is the finest expression of the art of medicine.

—James Ewing M D *Pa Med J* vol 25

# A STUDY OF 63 PATIENTS BEFORE AND AFTER WEIGHT REDUCTION

EDGAR C BECK, M D , and ROGER S HUBBARD, Ph D , Buffalo, New York

THE need for weight reduction in the obese is well established. In the first place, physical improvement accompanies weight loss. It was shown in a previous communication<sup>1</sup> that the symptoms—dyspnea, easy fatigue, and dizziness—that the obese frequently show, were ameliorated or cured in the majority of instances. In a large percentage of the patients who suffered from edema or hypertension, these conditions were also improved after treatment. Secondly, it was shown that the penalties of obesity, particularly the cardiovascular complications, are less apt to occur after weight reduction. These observations are in accord with those of other investigators.

Various types of low caloric diets have been advocated for weight reduction. As long as dietary treatment does not violate the general fundamental principles of nutrition, its particular nature seems to make but little difference. Metabolic stimulants, if used, must be employed cautiously.

In most instances weight reduction is not a difficult problem if the proper co-operation of the patient can be obtained. This usually holds true whether the overweight condition is primarily exogenous or endogenous in origin, or whether it is due to a combination of the two. Even in an outpatient department it has been found possible to obtain the necessary degree of cooperation.

In spite of the number of articles dealing with the technic of weight reduction and the results obtained, there are very few that discuss the fate of the obese person after his weight has been reduced to a normal level. It is not only of scientific interest to consider this

phase of the question, but it is of great importance to the patient to know whether or not his improvement will be permanent.

It is probably the general opinion that the obese patient must adhere to caloric restriction for the rest of his life. Aub<sup>2</sup> states that if a patient returns to an unrestricted diet there is no gain for one to two weeks, but that then he regains weight. He says the patient must always subsist on a low caloric diet so that he shall not reacquire bad dietetic habits.

We thought that it would be of value to study a group of obese people who had attained normal weight to see what would happen to them when their diets were increased. We also wish to report at this time the results of certain quantitative studies made upon a group of obese patients when they were first seen and repeated when their weight had been reduced to normal.

The diet that we used for weight reduction consisted of carbohydrate 40 Gm., protein 80 Gm., and fat 40 Gm. Food materials were selected to supply an adequate intake of vitamins and minerals. Thyroid extract in small doses (0.02–0.045 Gm. daily of desiccated thyroid) was used in most of the cases. In addition, ammonium chloride or potassium chloride was administered when it was thought necessary.

The patients were treated in the outpatient department of the Buffalo General Hospital. The work was done in collaboration with Dr. Roger S. Hubbard. We did not have perfect cooperation from any single patient and are of the opinion that the time for reduction to ideal weight was materially lengthened for this reason.

*Read at the Annual Meeting of the Medical Society of the State of New York,  
New York City, May 11, 1938*

By the methods described, we have been able to reduce to approximately normal weight 63 of 245 patients (29 per cent)

Chart 1 shows that this group of 63 obese people lost an average of 54 pounds over an average period of 314 days. At the end of this time they averaged 89 per cent over the ideal weight as taken from Davenport's<sup>3</sup> height-weight-age tables. The maximum excess was 18 per cent. We appreciate the fact that any table of this sort cannot be wholly satisfactory because it does not take body build into consideration. We believe that many of these patients were nearer to their ideal weight than the comparison with the table indicated.

Chart 2 demonstrates the effects of increases in diet on patients whose weight had been reduced to normal. In this chart, the 63 patients have been divided into four groups. Group A, which consisted of 11, or 17.6 per cent, gained weight when the diet was increased. Seven of them are again reducing weight on subcaloric diets and 4 have discontinued clinic care. In Group B there were 15 patients (23.8 per cent) who stopped attending the clinic. Five of them had valid reasons for doing this. Group C consisted of 11 patients (17.6 per cent) whose weights are within a high normal range but who are still on low caloric diets. Group D was made up of 26 patients (41 per cent) whose weight has remained within normal limits for an average period of 11.8 months after their diets had been increased.

In Chart 3 a more detailed study of these 26 patients is given. Nine of these people were on unrestricted diets for a period of approximately one year. A number of these patients gained some weight (the maximum was 16 pounds) but all stayed within a normal weight range. The remaining 17 were placed upon a diet consisting of carbohydrate 300 Gm, protein 80 Gm, and fat 40 Gm. Upon this diet most of them showed no increase during an average period of

CHART 1

RESULTS OF THE GROUP OF 63 PATIENTS REDUCED TO NORMAL WEIGHT  
NORMAL WEIGHT TAKEN FROM THE CARNEGIE INSTITUTE  
CHARTS OF HEIGHT, WEIGHT, AGE, AVERAGES.

|   |                       |
|---|-----------------------|
| SEX   | MALE 2<br>FEMALE 61   |
| COLOR   | WHITE 60<br>COLORED 3 |
| AGE   | 43.4 YRS.             |
| AVERAGE ORIGINAL WEIGHT                       | 304 LB.               |
| AVERAGE LOWEST WEIGHT                         | 150 LB.               |
| AVERAGE LOSS IN LB.                           | 54 LB.                |
| AVERAGE IDEAL WEIGHT                          | 136 LB.               |
| AVERAGE PERCENTAGE FROM IDEAL                 | 89 %                  |
| LENGTH OF TIME REQUIRED TO REACH IDEAL WEIGHT | 314 DAYS              |

CHART 2

PRESENT STATUS OF 63 PATIENTS WHO ATTAINED  
NORMAL WEIGHT

| GROUP | STATUS  | NUMBER     |  |
|-------|---|------------|--|
| A     | GROUP WHO GAINED WEIGHT WHEN DIET WAS INCREASED                           | 11 (17.6%) | 7 OF THESE ARE NOW ON REDUCED DIETS.<br>4 DISCONTINUED TREATMENT.  |
| B     | GROUP WHO DISCONTINUED CLINIC CONTACT WITH CLINIC                         | 15 (23.8%) | 9 HOSPITALIZED FOR VARIOUS REASONS.<br>2 DEVELOPED CHRONIC ILLNESS.<br>1 BECAME PREGNANT.<br>2 FINANCIAL, SOCIAL, PERSONAL AND SO NOT IN CLINIC CARE.<br>1 DECEASED. |
| C     | GROUP WHO WERE AT TAPERS A HIGH NORMAL WEIGHT BUT ARE STILL BEING REDUCED | 11 (17.6%) |  |
| D     | GROUP WHO WERE AT TAPERS A HIGH NORMAL WEIGHT BUT ARE STILL BEING REDUCED | 26 (41.1%) | IF GROUP C IS ELIMINATED THEN GROUP D 30.5.  |

CHART 3

GROUP D. 26 PATIENTS WHOSE WEIGHT REMAINED  
STATIONARY OVER A PERIOD OF TIME ON UNLIMITED  
OR HIGH CHO, LOW FAT DIETS

| NAME                                    | TYPE OF DIET | LENGTH OF TIME ON DIET | LAST WEIGHT   |   |
|---|--------------|------------------------|---------------|---|
| A.E.                                    | UNRESTRICTED | 2 YEARS                | SAME          | 9 on UNRESTRICTED DIETS                       |
| B.H.                                    |              | 0 MO.                  | SAME          |   |
| H.C.                                    |              | 5 YEARS                | GAINED 11 LB. |   |
| F.F.                                    |              | 2 YEARS                | GAINED 4 LB.  |   |
| J.R.                                    |              | 2 YEARS                | GAINED 17 LB. |   |
| L.S.                                    |              | 3 MO.                  | SAME          |   |
| L.G.                                    |              | 1 YEAR                 | GAINED 14 LB. |   |
| E.V.                                    |              | 6 MO.                  | GAINED 14 LB. |   |
| S.D.                                    |              | 1 YEAR                 | GAINED 16 LB. |   |
|   |              |                        |               |   |
| 300 GR. CHO<br>80 GR. PRO<br>40 GR. FAT |              | 6 MO.                  | SAME          | 17 on 300 GR. CHO<br>80 GR. PRO<br>40 GR. FAT |
| F.H.                                    |              | 4 MO.                  | SAME          |   |
| T.S.                                    |              | 7 MO.                  | GAINED 10 LB. |   |
| H.B.                                    |              | 3 MO.                  | SAME          |   |
| G.C.                                    |              | 9 MO.                  | SAME          |   |
| L.D.                                    |              | 17 MO.                 | SAME          |   |
| T.H.                                    |              | 6 MO.                  | SAME          |   |
| A.S.                                    |              | 6 MO.                  | SAME          |   |
| E.D.                                    |              | 6 MO.                  | SAME          |   |
| P.D.                                    |              | 6 MO.                  | GAINED 0 LB.  |   |
| E.E.                                    |              | 3 MO.                  | SAME          |   |
| G.R.                                    |              | 6 MO.                  | SAME          |   |
| E.H.                                    |              | 2 YEARS                | GAINED 15 LB. |   |
| D.L.                                    |              | 6 MO.                  | GAINED 4 LB.  |   |
| F.H.                                    |              | 6 MO.                  | SAME          |   |
| S.V.                                    |              | 6 MO.                  | GAINED 2 LB.  |   |
| E.V.                                    |              | 6 MO.                  | GAINED 4 LB.  |   |
| AVERAGE 11.0 POUNDS                     |              |                        |               |   |

AVERAGE 11.8 MO.



CHART 4

INDIVIDUAL RESULTS OF THE HYPERTENSIVE GROUP

7 of 40 TOTAL HAD ELEVATED BLOOD PRESSURES (33%)

12 = 43% REDUCED TO NORMAL

12 = 31% NOT REDUCED TO NORMAL

| NAME | AGE | SEX | COLOR | DIASTOLIC B.P. | LAST B.P. | RETINAL EXAMINATION |
|------|-----|-----|-------|----------------|-----------|---------------------|
| A.S. | 44  | F   | W     | 172/115        | 170/70    | +                   |
| R.H. | 36  | M   | W     | 200/100        | 135/75    | ++                  |
| G.B. | 59  | F   | W     | 173/115        | 146/70    | ++                  |
| E.C. | 34  | F   | W     | 152/104        | 144/75    | 0                   |
| A.K. | 43  | F   | W     | 170/110        | 126/60    | 0                   |
| D.R. | 43  | F   | W     | 175/95         | 145/90    | —                   |
| P.R. | 49  | F   | W     | 165/90         | 135/60    | —                   |
| L.S. | 42  | F   | W     | 172/112        | 136/64    | ++                  |
| M.B. | 30  | F   | W     | 135/99         | 115/75    | +                   |
| G.B. | 51  | F   | W     | 210/124        | 190/104   | ++                  |
| O.C. | 64  | F   | W     | 170/103        | 172/70    | —                   |
| S.O. | 35  | M   | C     | 165/100        | 170/100   | —                   |
| I.G. | 36  | F   | W     | 160/110        | 160/110   | —                   |
| C.R. | 30  | F   | W     | 150/100        | 152/95    | +                   |
| E.D. | 33  | F   | W     | 200/100        | 175/60    | —                   |
| M.D. | 51  | F   | W     | 190/110        | 150/90    | +                   |
| E.F. | 72  | F   | W     | 200/120        | 170/90    | ±                   |
| L.H. | 46  | F   | W     | 160/110        | 152/90    | ++                  |
| C.L. | 49  | F   | W     | 190/110        | 170/90    | +                   |
| L.S. | 41  | F   | W     | 190/100        | 165/100   | 0                   |
| O.V. | 64  | F   | W     | 200/100        | 175/90    | ++                  |

9 BLOOD PRESSURES  
REDUCED TO NORMAL (43%)  
AVERAGE AGE 50 YEARS12 BLOOD PRESSURES NOT  
REDUCED TO NORMAL (57%)  
AVERAGE AGE 53 YEARS

CHART 5

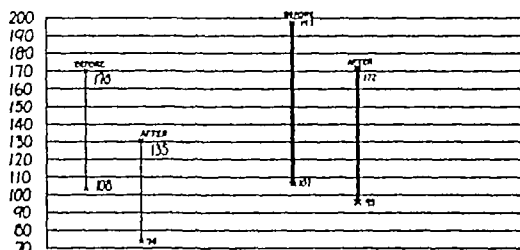
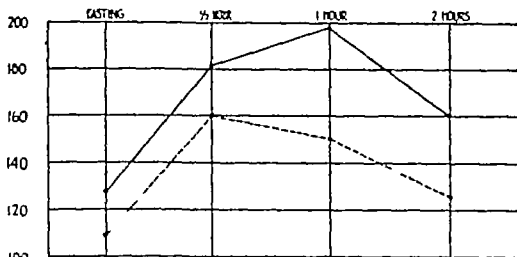
COMPARISON OF BLOOD PRESSURES BEFORE AND AFTER  
WEIGHT REDUCTION IN HYPERTENSIVE GROUPSINGLE LINES 9 BLOOD PRESSURES REDUCED TO NORMAL  
SOLID LINES 12 CASES BLOOD PRESSURES NOT REDUCED TO NORMALTHE ARBITRARY FIGURES OF 150mm. OR OVER FOR SYSTOLIC AND  
100 OR MORE DIASTOLIC WERE TAKEN AS EVIDENCE OF HYPERTENSION,  
PARTICULARLY IF ARTERIOSCLEROSIS WAS ALSO PRESENT

CHART 6

COMPOSITE GLUCOSE TOLERANCE CURVES OF  
25 PATIENTS BEFORE AND AFTER WEIGHT REDUCTIONHEAVY LINE: G.T. CURVE BEFORE WEIGHT REDUCTION  
DOTTED LINE: G.T. CURVE WHEN THE IDEAL WEIGHT WAS ATTAINED  
THESE FIGURES HAVE BEEN CHECKED BY STANDARD STATISTICAL METHODS AND  
THE DIFFERENCES HAVE BEEN PROVEN SIGNIFICANT

one year. Such gains as were noted were small, especially when the previous weight loss was taken into consideration. This diet, which can be classified as a moderately liberal one, seemed to satisfy our patients so that they desired no further increase.

In Chart 4 are given our results with the 21 patients of the group who had

blood pressures that could be considered elevated. In borderline cases the examination of the retinal vessels was regarded important in reaching a diagnosis. Of these patients, 9, whose age averaged 50 years, showed a return to normal blood pressure after weight reduction. This happened in some instances when retinal arteriosclerosis was present. The remaining 12 of the hypertensive patients showed some reduction in blood pressure, but not to normal levels. There was a general improvement in those symptoms that could be attributed to the hypertension. These results conform with those of others who have made similar investigations.

In Chart 5 there is a comparison between the average of those whose blood pressure dropped to normal and those whose blood pressure did not reach normal levels. In 9 of these the blood pressure was lowered to normal from an average of 178/108 to 135/74. In the remaining 12 the pressures were reduced from 197/107 to 172/95, as shown by the heavier lines.

Chart 6 shows a comparison of the glucose tolerance curves taken on 25 patients before and after weight reduction. There was a definite improvement in the curve after weight loss. These figures have been checked by standard statistical methods and the differences have been proven significant. These 25 patients were then given a high carbohydrate diet and another series of glucose tolerance tests were taken, with even further improvement in the curves. A more detailed report of this study will be given in a subsequent paper.

Chart 7 shows basal metabolic rates taken on 24 patients before and after weight reduction. It is well known that basal metabolic rates are within normal limits in the majority of obese patients. In our own series, 2 (Cases 1 and 11) had moderately elevated rates. One of these (Case 11) had had a previous thyroidectomy. There were also 3 cases of hypometabolism in this series (Cases 21, 22, 23). After weight reduction,

8 patients (Cases 2, 6, 8, 11, 14, 15, 17, and 18) showed elevated metabolic rates. All but 2 of these patients had received thyroid extract in small doses. Such medication was not given to Case 11 who had had a previous thyroidectomy. It is obvious that several factors enter into the significance of the figures in Chart 7. As has been previously pointed out by Strang and Evans,<sup>4</sup> Wilder, Smith, and Sandiford,<sup>5</sup> and Short and Johnson,<sup>6</sup> the measurement of the basal metabolic rate, which depends upon estimations of the body surface and so upon the weight of the patient, does not serve as an accurate index for comparing results before and after weight reduction. The actual increases in metabolism were certainly less than those shown in the table. To what extent this factor and the administration of thyroid substance are responsible for the increases cannot be determined. It is worthy of note that none of the patients showed clinical signs of hyperthyroidism. It is also perhaps significant that the 3 patients with hypometabolism, who received somewhat larger doses of thyroid than did the others in the series, failed to show appreciable increases in the basal metabolic rate in spite of the reduction in weight and in consequence, of the estimated value of the body surface.

In Chart 8, circumferential measurements of the neck, biceps, bust, waist, hips, and buttocks before and after weight reduction are shown. Outside of the neck measurements, the percentage of loss in all measurements was approximately the same (17 per cent).

### Conclusions

1 It was possible to reduce 20 per cent of all the admissions to an outpatient department obesity clinic to normal weight.

2. Approximately 50 per cent of those reduced to normal weight could maintain such weight on fairly liberal diets (low fat) for one year.

3 The systolic and diastolic blood pressure could be reduced in most cases

CHART 7

BASAL METABOLIC RATES BEFORE AND AFTER WEIGHT REDUCTION  
(34 PATIENTS)

| NAME | WEIGHT (KG) | HEIGHT (CM) | LAST B.M.E. | DIFFERENCE | REMARKS    |
|------|-------------|-------------|-------------|------------|------------|
| 1    | 85          | 170         | +20         | +3         | NO THERAPY |
| 2    | 74          | 165         | 0           | 0          | SMALL DOSE |
| 3    | 71          | 165         | 0           | 0          | NO THERAPY |
| 4    | 85          | 170         | 0           | 0          | NO THERAPY |
| 5    | 83          | 170         | 0           | 0          | NO THERAPY |
| 6    | 85          | 170         | 0           | 0          | NO THERAPY |
| 7    | 85          | 170         | 0           | 0          | NO THERAPY |
| 8    | 85          | 170         | 0           | 0          | NO THERAPY |
| 9    | 85          | 170         | 0           | 0          | NO THERAPY |
| 10   | 85          | 170         | 0           | 0          | NO THERAPY |
| 11   | 85          | 170         | 0           | 0          | NO THERAPY |
| 12   | 85          | 170         | 0           | 0          | NO THERAPY |
| 13   | 85          | 170         | 0           | 0          | NO THERAPY |
| 14   | 85          | 170         | 0           | 0          | NO THERAPY |
| 15   | 85          | 170         | 0           | 0          | NO THERAPY |
| 16   | 85          | 170         | 0           | 0          | NO THERAPY |
| 17   | 85          | 170         | 0           | 0          | NO THERAPY |
| 18   | 85          | 170         | 0           | 0          | NO THERAPY |

CHART 8

AVERAGE MEASUREMENTS OF 33 PATIENTS (WOMEN)  
BEFORE AND AFTER WEIGHT REDUCTION

|                       | NECK   | BUST   | WAIST  | HIPS   | BUTTOCKS |
|-----------------------|--------|--------|--------|--------|----------|
| AVERAGE BEFORE WEIGHT | 24 in. | 34 in. | 28 in. | 34 in. | 34 in.   |
| AVERAGE AFTER WEIGHT  | 21 in. | 30 in. | 24 in. | 30 in. | 30 in.   |
| AVERAGE LOSS          | 12.5%  | 11.8%  | 14.3%  | 11.8%  | 11.8%    |

In 43 per cent of the patients the blood pressure dropped to normal levels.

4 There was an approximation of the glucose tolerance curves toward normal levels after weight reduction.

5 The basal metabolic rates, expressed as percentages of the normal values tended to increase moderately. To what extent this was due to changes in the body surface, to the small amounts of thyroid extract used during the period of weight reduction, and to other unknown factors could not be determined.

6 In general, the weight reduction was accompanied by equivalent reduction in circumferential body measurements.

### References

- 1 Beck, E. C. and Hubbard, R. S. *Am. J. Diabet. Dis. & Nutrition* 1: 250 (1934).
- 2 Aub, J. C.: *Al. Clin. North America* 18: 1101 (1935).
- 3 Davenport, C. B. *Carnegie Institute of Washington Publication No. 229* pp 19, 20, 27, 169-174 (1923).
- 4 Strang, J. M. and Evans, F. A. *J. Clin. Investigation* 4: 277 (1928).
- 5 Wilder, R. M., Smith, F. H. and Sandiford, I. *Ann. Int. Med.* 8: 724 (1933).
- 6 Short, J. J. and Johnson, H. J. *J.A.M.A.* 106: 1776 (1930).

## Discussion

Dr Herbert Pollack, *New York City*—The treatment of obesity is dependent upon the recognition of the fact that the law of the conservation of energy holds true in the human being as well as in the laboratory. Naturally, if the caloric intake is less than the caloric expenditure, the body will have to draw upon its reserves to make up the deficiency. Consequently, the rate of weight loss in individuals will depend upon the difference between the intake and the output. Since there is a minimum caloric intake to which people can be limited, somewhere in the neighborhood of 600 to 800 calories, various schemes have been devised to increase the caloric expenditure of the individual, or to include such foods in the diet that have a high satiation value, or to hasten the passage of food through the gastrointestinal tract, and, consequently, limit the percentage of absorption. Among the former schemes, that is, those designed to increase the caloric expenditure, were dinitrophenol, thyroid extracts, cold douches, steam baths, and short-wave hyperpyrexia. Then there is the Strang-Evans type of diet, which takes advantage of the specific dynamic action of proteins, which may raise the metabolism of the body as much as 30 per cent. This type of diet also has the advantage of including large portions of meat with their high satiation values. Among the latter schemes belongs the banana and skimmed-milk diet.

There is no question about the fact that the obese person should be re-educated in regard to his eating habits, so that after the initial weight-reduction period is over the patient will have a permanent carry-over to prevent the return of the obesity. Therefore, it is essential that all reducing régimes be based upon the choice of foods normally available to the individual at home and in the restaurants. It is up to the physician and dietitian to educate the patient, rather than to merely reduce him. The teaching of the obese patient should be planned on the same basis as that of the diabetic patient. He should be taught the source of hidden calories. He should know that the pat of butter thrown on his vegetables in the kitchen adds 90 calories to the value of the food, that an extra 90 calories a day for a period of a year, means a gain in body weight of over 5 pounds. It is amazing to me how constant the body weight actually does remain in most people. As Du Bois says, "A man aged 40, now weighing 165 pounds, weighed the same about twenty years ago. If during that period he has consumed an average of

2,500 calories daily, the total for twenty years would amount to over 18,000,000 calories. The amount of fat stored in, or lost from the body could be no more than 1 pound, or 4,500 calories. This means that the total intake of food was adapted to the total expenditures, with an error of one-fourth of 1 per cent." Since a man, when he took an extra pat of butter, automatically compensated by extra heat loss in one form or another, the real problem is that most people err in their choice of foods. Perhaps the work of Rich on the relationship of vitamin B<sub>1</sub> to the selective choice of foods will give us a partial answer. During the past four years at Mt Sinai Hospital in our nutrition clinic we have had occasion to treat over 3,000 obese patients. Our results, in relationship to blood pressure and glucose tolerance, are completely in accord with Dr Beck's. I should like to mention the unpublished works of Newburgh and his associates at Michigan, showing that the hyperglycemia and glycosuria of the obese is a manifestation of liver dysfunction, rather than of true diabetes mellitus.

Long-time reducing programs must include the supplementary use of vitamin concentrates. Our studies show that patients develop real vitamin A insufficiencies after eight weeks of restricted caloric intake. We are at present determining the vitamin B<sub>1</sub> balance in this group of patients.

The question of spontaneous or intermittent hypoglycemia as a cause of obesity must also be borne in mind. This, however, is part of a vicious cycle set up by the excessive caloric intake. In all of our experience, I can recall only one serious complication to a reducing régime. That is the case of a 310-pound female whose weight was reduced to 190 pounds in twelve months' time. At the end of this period, the patient developed a bilateral inguinal hernia and a strangulated femoral hernia, which necessitated surgical intervention. At the time of the operation it was easily seen that the hernial orifices had been tremendously dilated, due to the intra-abdominal pressure from the mesenteric fat. This fat accumulation had apparently acted as plugs in the dilated orifices. When the accumulation had been consumed, there was no longer anything to stop the intestines from being forced through the orifices.

Besides adequate vitamin protection, a positive nitrogen balance must be maintained. Constipation commonly originates when the total intake of food is restricted. This is more than likely related to the vitamin B insufficiency rather than to lack of bulk. The actual weight curve does not always reflect the loss of body fat.

We have seen patients maintain a fairly constant weight for a period of thirty days when there was a period of definite caloric deficiency. At the end of this time, diuresis would set in spontaneously and the weight loss in two days would equal the expected weight loss for the month. These observations are of importance to the physician so that he may encourage the conscientious patient to the time of actual weight loss when the expected fails to materialize. A limited salt and fluid intake helps a great deal preventing such temporary positive water balances.

Dr J J Short, *New York City*—There is value in having a clinic specially devoted to the treatment of obesity. At the Post Graduate Hospital such a clinic was formed about seven years ago. An esprit de corps is created that insures better cooperation upon which success of treatment depends. Our results have been very similar to those reported by Dr Beck.

The average rate of reduction has been 8 to 10 pounds a month. We have seen no ill effects in even more rapid weight reductions nor should any be experienced if diets contain the essential elements.

I was glad that Dr Beck referred to metabolism in relation to total surface area. Although basal metabolisms are initially generally within the range of normal the total heat output is tremendous compared to that after normal weight has been attained. Within the first few weeks after submaintenance diets are instituted there is a sharp drop in metabolism both total and basal characteristic of starvation. At this point we institute thyroid therapy to restore the basal metabolism to normal and maintain a steady weight loss. Eventually with loss of weight and restoration of normal surface area the total heat production becomes normal. There is no limit to the extent to which weight may be reduced safely. Our prize patient is one

who reduced 239 lbs. from 395 to 156 with general improvement and no adverse symptoms.

My congratulations to Dr Beck on his interesting paper.

Dr Louis Bauman, M.D., *New York City*—Dr Beck is to be congratulated on his successful results. To reduce 1 out of 4 patients to normal weight is quite an achievement since success depends so much on the attitude and will power of the patient.

In my own experience at the Presbyterian Hospital I have found that few patients are steadfast enough to continue the rigid discipline for ten months—and to maintain normal weight once achieved for any considerable period is infinitely more difficult. Our average weight loss based on 2 000 cases is about 4 or 5 pounds a month.

As obesity is a forerunner of a number of serious diseases its prevention becomes one of the duties of the medical profession. In this we are hampered by tradition. Such high calorie foods, such as ice cream candies cakes pies olive oil butter cheeses nuts macaroni and the like are still favored by many. These foods were consumed by our forefathers to supply the 3 000 or more calories that they required for their ordinary daily activities. Modern conveniences of transportation and other labor saving devices have reduced our calorie requirements to about one-half or two-thirds.

Obviously the prevention of obesity is an educational problem. The desirable chef of the future will be he who can prepare attractive low calorie dishes containing satisfactory amounts of essential minerals, proteins and vitamins.

Our experience with obese hypertensive patients indicates that while weight loss will not always lower blood pressure yet it obviously reduces the burden imposed on the circulatory system and is therefore clearly indicated in this condition.

## SILK INSTEAD OF CATGUT

How the use of silk instead of catgut in closing surgical wounds has made the after-operation period much easier for the patient and reduced the hospitalization period was described by Dr Donald Guthrie, Sayre, Pennsylvania surgeon, who was guest speaker of the 133rd annual Meeting of the Medical Society of the State of New York. Dr Guthrie said in part

"Using the silk technic, wounds have been

uniformly closed without drainage serum accumulations have been infrequent, and no infections have developed. Hospitalization periods have been reduced four to six days.

He said that when catgut was formerly used in appendectomy the hospitalization period was usually nine days whereas using silk, the patient was up in four days and went home in seven days.

# ELECTROCARDIOGRAPHY

## The Values and Limitations

HERMAN TARNOWER, M D , Scarsdale, New York

(Assistant in Medicine, Columbia University, First Medical Division, Bellevue Hospital)\*

**T**HE important place that electrocardiography holds in cardiology is undoubtedly well merited, but those cardiologists who advocate it as a routine examination and hail it as a prophet would do well to remember one of Sir James MacKenzie's biblical quotations, "This wicked and adulterous people seeketh a sign, but none shall be given them." It cannot be too often stressed that without a careful consideration of the clinical features no laboratory test can acquire its full significance. This is especially true of electrocardiography. Fortunately or unfortunately, medicine has not degenerated to the extent that we may diagnose merely by means of a "sign."

It is not the purpose of this paper to describe or illustrate the various electrocardiographic changes that may occur in health and disease, but rather to indicate to the general practitioner, who may be confused by the enormous amount of literature on the subject, what help he may expect to gain through its use.

Although the electrocardiograph is the most precise means at our disposal for investigating the state of the myocardium, it must not be regarded as a court of last appeal. The degree of electrocardiographic abnormality does not always parallel the amount of cardiac damage, for it depends not only on the amount of damage present, but also on the site. A small localized lesion in one of the branches of the auriculoventricular bundle will cause an extensive alteration in a tracing, whereas a much larger lesion in the wall of the ventricle may cause little or no change. The inadequacy of electrocardiography in the diagnosis of valvular disease is a classic example of how

completely it may fail to give evidence of gross pathology.

### Arteriosclerotic Heart Disease

All organs undergo structural changes as the result of arteriosclerosis, the majority of which are recognized only by the pathologist. In the heart, the electrocardiograph is capable of demonstrating evidence of such minor degenerations through slight alterations in the QRS complex and T wave. Are we justified in calling this arteriosclerotic heart disease when there are no clinical signs and the patient is free of symptoms?

*Angina Pectoris*—Abnormal ventricular waves are frequently found in patients suffering with angina pectoris but an electrocardiogram that is considered normal will no more exclude angina pectoris than a negative physical examination, nor will a record denoting severe myocardial damage infer that a patient is suffering with anginal attacks. Whether we consider angina pectoris as a clinical entity or a symptom complex, there can be no doubt that it must be recognized and diagnosed on a careful analysis of the patient's symptoms. Electrocardiographic changes have been shown to occur during brief attacks of angina pectoris.<sup>20</sup> These, however, are not constant and are difficult to demonstrate. The onset of anginal seizures may date from the time of a coronary thrombosis, or, as is often the case, they may cease entirely after recovery from such an episode. It is worth bearing in mind that a tracing may suggest (not diagnose) an old myocardial infarction when there has been no clinical evidence of a past coronary occlusion.<sup>14</sup>

*Coronary Thrombosis*—Ever since 1920, when Pardee<sup>21</sup> first described his sign of coronary artery obstruction, the electro

\* Bowen Fellow of the New York Academy of Medicine

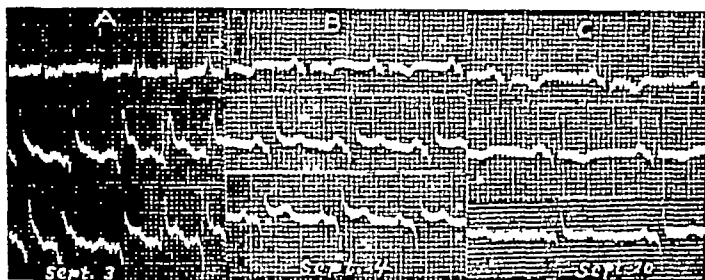


FIG 1 Case of acute myocardial infarction. (A) Rapid auricular fibrillation,  $Q_1T_1$ ,  $Q_2T_2$  type of occlusion (B) Return to normal rhythm on following day (C) Inverted  $T_1$  suggests that patient suffered previous anterior apical occlusion

cardiogram has been an important aid in the diagnosis of myocardial infarction.<sup>2</sup> Undoubtedly the great majority of coronary occlusions can be easily recognized clinically, but the valuable confirmatory evidence gleaned through electrocardiography is certainly worth while, and may be of considerable aid in a differential diagnosis. Changes have been detected within a few minutes following a coronary closure, but for practical purposes, where there is no need for haste, it is best to take a tracing eight to twelve hours after the suspected attack. A single tracing may fail to give evidence of a myocardial infarction, but if serial records are taken, very few if any will neglect to show electrocardiographic changes.<sup>4,28</sup> Serial tracings can also be of value when one has difficulty in determining whether the changes are recent or old. Where follow-up tracings are necessary they may be done on or after the second day.

The sequence of an elevated ST segment to an inverted T, to an upright T, as described by Parkinson and Bedford<sup>21</sup> is pathognomonic of myocardial infarction, but one does not often see the complete picture in private practice because few patients can afford serial tracings. It is important to realize that any of the above changes can be caused by a great number of conditions. Otherwise, serious errors in diagnosis may easily be made, i.e. a coronary occlusion may initiate a paroxysm of fibrillation, flutter, or tachy-

cardia, on the other hand, after such a paroxysm, in the absence of an occlusion, the T wave is often temporarily inverted, hypertensive individuals with left preponderance frequently have an inverted T wave in lead one<sup>30</sup>, a right preponderance may be associated with inversion of the T in lead two, luetic aortitis involving the coronary ostia and inciting severe anginal pain is frequently associated with inverted T waves, digitalis usually causes characteristic alterations in the ST and T complexes, but they may be confused with the coronary<sup>31</sup> T, acute rheumatic fever and pericarditis cause elevated ST segments and inverted T waves<sup>24</sup>, various acute infections and drugs will cause inversion of the T, etc.<sup>18-20</sup> The localization of myocardial infarctions as either anterior or basal by the  $Q_1T_1$  or  $Q_2T_2$  type of record is fairly accurate.<sup>1,43</sup> Such a characterization, as far as we know, has no prognostic significance, but it has given us a better understanding of the electrocardiographic changes that follow multiple thromboses.<sup>44</sup>

The reports up to the present indicate that the fourth lead should be employed when myocardial infarction is suspected,<sup>7,14,18,29</sup> but that the conventional leads alone will suffice for all other conditions. A single record with the conventional leads is sometimes normal at a time when the fourth lead would suggest a coronary occlusion and vice versa, they are thus a valuable check on each other.

# ELECTROCARDIOGRAPHY

## The Values and Limitations

HERMAN TARNOWER, M D , Scarsdale, New York

(Assistant in Medicine, Columbia University, First Medical Division, Bellevue Hospital)\*

THE important place that electrocardiography holds in cardiology is undoubtedly well merited, but those cardiologists who advocate it as a routine examination and hail it as a prophet would do well to remember one of Sir James MacKenzie's biblical quotations, "This wicked and adulterous people seeketh a sign, but none shall be given them." It cannot be too often stressed that without a careful consideration of the clinical features no laboratory test can acquire its full significance. This is especially true of electrocardiography. Fortunately or unfortunately, medicine has not degenerated to the extent that we may diagnose merely by means of a "sign."

It is not the purpose of this paper to describe or illustrate the various electrocardiographic changes that may occur in health and disease, but rather to indicate to the general practitioner, who may be confused by the enormous amount of literature on the subject, what help he may expect to gain through its use.

Although the electrocardiograph is the most precise means at our disposal for investigating the state of the myocardium, it must not be regarded as a court of last appeal. The degree of electrocardiographic abnormality does not always parallel the amount of cardiac damage, for it depends not only on the amount of damage present, but also on the site. A small localized lesion in one of the branches of the auriculoventricular bundle will cause an extensive alteration in a tracing, whereas a much larger lesion in the wall of the ventricle may cause little or no change. The inadequacy of electrocardiography in the diagnosis of valvular disease is a classic example of how

completely it may fail to give evidence of gross pathology.

### Arteriosclerotic Heart Disease

All organs undergo structural changes as the result of arteriosclerosis, the majority of which are recognized only by the pathologist. In the heart, the electrocardiograph is capable of demonstrating evidence of such minor degenerations through slight alterations in the QRS complex and T wave. Are we justified in calling this arteriosclerotic heart disease when there are no clinical signs and the patient is free of symptoms?

*Angina Pectoris*—Abnormal ventricular waves are frequently found in patients suffering with angina pectoris but an electrocardiogram that is considered normal will no more exclude angina pectoris than a negative physical examination, nor will a record denoting severe myocardial damage infer that a patient is suffering with anginal attacks. Whether we consider angina pectoris as a clinical entity or a symptom complex, there can be no doubt that it must be recognized and diagnosed on a careful analysis of the patient's symptoms. Electrocardiographic changes have been shown to occur during brief attacks of angina pectoris.<sup>20</sup> These, however, are not constant and are difficult to demonstrate. The onset of anginal seizures may date from the time of a coronary thrombosis, or, as is often the case, they may cease entirely after recovery from such an episode. It is worth bearing in mind that a tracing may suggest (not diagnose) an old myocardial infarction when there has been no clinical evidence of a past coronary occlusion.<sup>21</sup>

*Coronary Thrombosis*—Ever since 1920, when Pardee<sup>21</sup> first described his sign of coronary artery obstruction, the electro-

\* Bowen Fellow of the New York Academy of Medicine.

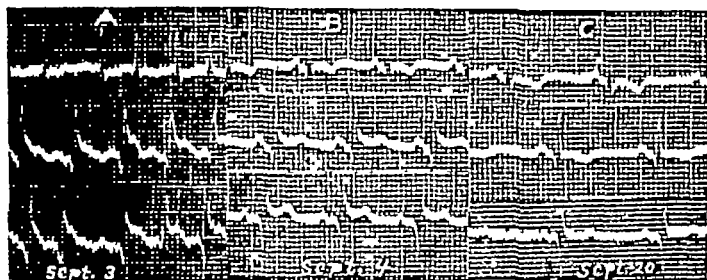


FIG. 1 Case of acute myocardial infarction. (A) Rapid auricular fibrillation  $Q_iT_i$ ,  $Q_iT_i$  type of occlusion. (B) Return to normal rhythm on following day (C) Inverted  $T_i$  suggests that patient suffered previous anterior apical occlusion.

cardiogram has been an important aid in the diagnosis of myocardial infarction.<sup>2</sup> Undoubtedly the great majority of coronary occlusions can be easily recognized clinically, but the valuable confirmatory evidence gleaned through electrocardiography is certainly worth while, and may be of considerable aid in a differential diagnosis. Changes have been detected within a few minutes following a coronary closure, but for practical purposes, where there is no need for haste, it is best to take a tracing eight to twelve hours after the suspected attack. A single tracing may fail to give evidence of a myocardial infarction, but if serial records are taken, very few if any will neglect to show electrocardiographic changes.<sup>1,2,3</sup> Serial tracings can also be of value when one has difficulty in determining whether the changes are recent or old. Where follow-up tracings are necessary, they may be done on or after the second day.

The sequence of an elevated ST segment to an inverted T, to an upright T, as described by Parkerson and Bedford,<sup>22</sup> is pathognomonic of myocardial infarction, but one does not often see the complete picture in private practice because few patients can afford serial tracings. It is important to realize that any of the above changes can be caused by a great number of conditions. Otherwise, serious errors in diagnosis may easily be made, i.e. a coronary occlusion may initiate a paroxysm of fibrillation, flutter, or tachy-

cardia, on the other hand, after such a paroxysm, in the absence of an occlusion, the T wave is often temporarily inverted, hypertensive individuals with left preponderance frequently have an inverted T wave in lead one<sup>20</sup>, a right preponderance may be associated with inversion of the T in lead two, luetic aortitis involving the coronary ostia and inciting severe anginal pain is frequently associated with inverted T waves, digitalis usually causes characteristic alterations in the ST and T complexes, but they may be confused with the "coronary" T, acute rheumatic fever and pericarditis cause elevated ST segments and inverted T waves<sup>24</sup>, various acute infections and drugs will cause inversion of the T, etc.<sup>15-20</sup> The localization of myocardial infarctions as either anterior or basal by the  $Q_iT_i$  or  $Q_iT_i$  type of record is fairly accurate.<sup>1,2</sup> Such a characterization, as far as we know, has no prognostic significance, but it has given us a better understanding of the electrocardiographic changes that follow multiple thromboses.<sup>44</sup>

The reports up to the present indicate that the fourth lead should be employed when myocardial infarction is suspected,<sup>7,14,18,25</sup> but that the conventional leads alone will suffice for all other conditions. A single record with the conventional leads is sometimes normal at a time when the fourth lead would suggest a coronary occlusion and vice versa, they are thus a valuable check on each other.



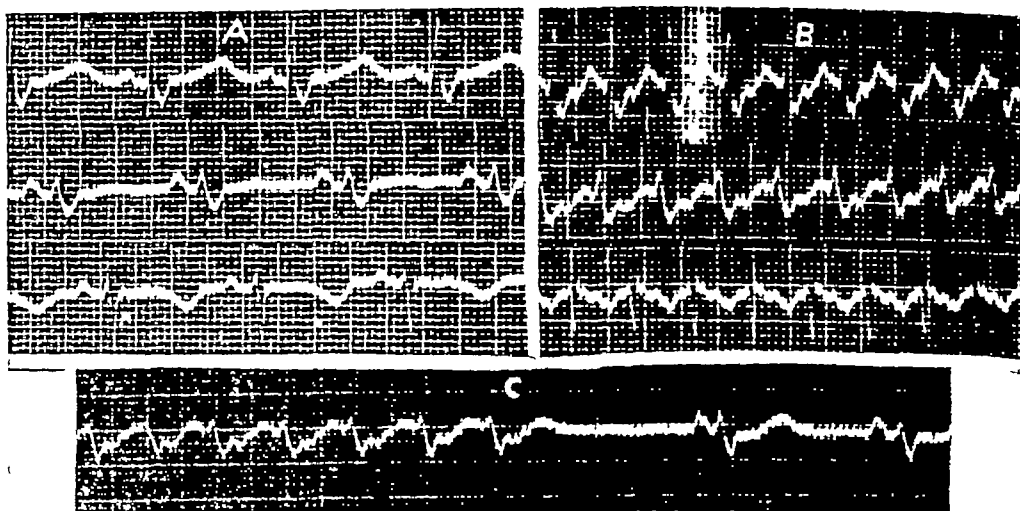


FIG 2 Sixty-year-old female who experienced prolonged attacks of paroxysmal tachycardia and responded satisfactorily to acetyl-*b*-methylcholine (A) Common type of bundle-branch block (B) Paroxysmal tachycardia of nodal origin (C) Lead 2, taken immediately after administration of acetyl-*b*-methylcholine shows change to normal rhythm

The introduction of the cathode-ray oscillograph as an instrument for observing and recording the electrocardiogram may open a new era in bedside electrocardiography.<sup>27</sup> This instrument flashes the tracing upon a fluorescent screen where it remains for a sufficient period of time to be read. A permanent record can be taken at the same time. Its advantages are that it is simple, and an opinion can often be given before any records have been developed. At present, it has the disadvantage of being too sensitive, it is more apt to record muscle tremors than the string galvanometer, and it does not work as well with an alternating current.

### Acute Rheumatic Fever

Electrocardiography is a very useful aid in the diagnosis and management of acute rheumatic fever. Few patients will fail to show electrocardiographic changes sometime during their illness.<sup>3,25</sup> A partial auriculoventricular block is the most common finding. The elevated ST segment, another frequent manifestation, may occur to such a marked degree that it is possible to mistake it for a coronary occlusion. Inverted T waves may appear, especially when pericarditis is present. The important thing to realize is that

the electrocardiographic changes are not pathognomonic, but where the clinical features would lead one to suspect the presence of rheumatic fever, the confirmatory electrocardiographic evidence is practically diagnostic. As a rule, the electrocardiographic changes clear up as the rheumatic infection subsides. The fourth lead has been recommended as an additional aid in diagnosis.<sup>16</sup> Its value, however, is very controversial and doubtful.<sup>9,28,32</sup>

### Cardiovascular Syphilis

There are no electrocardiographic changes that may be considered helpful in the recognition of luetic heart disease. The slurring and notching of the QRS complex and the inverted T waves which are frequently found in one or more leads are the result of narrowed coronary ostia and secondary myocardial changes. It is interesting to note that whereas a bundle branch block is a fairly common finding in aortic insufficiency of luetic origin, it is extremely rare in rheumatic aortic insufficiency.

### Disturbances of Cardiac Rhythm and Heart Block

It is in this group of disorders that electrocardiography gives its most accu

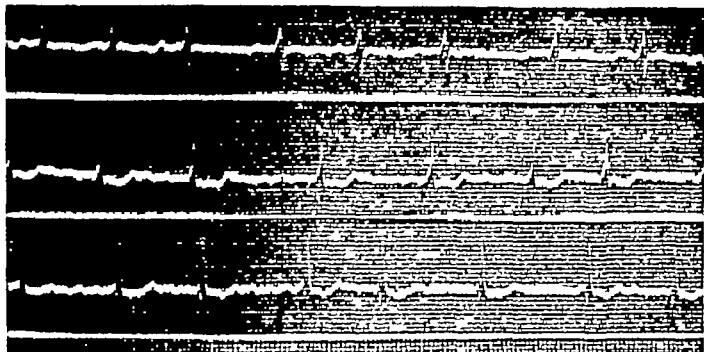


FIG 3 Case of widely patent foramen ovale (proved at autopsy) showing auricular fibrillation and slight right axis deviation

rate information. Through its use we have come to have a clearer understanding of the underlying pathologic physiology.<sup>10</sup> There are rare instances when more than one tracing is necessary for a correct interpretation. For the most part, they can be accurately differentiated with ease.

In medicine, our interest in any field invariably increases when an efficacious therapeutic agent becomes available. Though the treatment of heart disease is not within the scope of this paper, mention will be made of a few drugs to emphasize the importance of a careful diagnosis, which in many instances can only be satisfactory with the aid of electrocardiography.

A simple sinus arrhythmia seldom, if ever, requires a tracing for diagnosis. Rarely one encounters difficulty in distinguishing extrasystoles from auricular fibrillation.\*

In flutter of two-to-one or three to-one block a tracing may be the only means of recognition. Mention may be made here of Lian's precordial lead<sup>13</sup> which exaggerates the auricular component of the

electrocardiogram. (The right arm electrode is placed on the manubrium sterni and the left arm electrode is put at the junction of the right border of the sternum with the fifth intercostal space.) It is very useful in identifying indefinite P waves of small amplitude.

It is extremely important to distinguish the auricular and nodal paroxysmal tachycardias from the ventricular type, since the former two frequently start spontaneously in the absence of any underlying myocardial pathology, while the latter rarely, if ever, occurs without the presence of some cardiac damage<sup>7</sup>, the inciting cause is often a coronary thrombosis. In the treatment of auricular and nodal paroxysmal tachycardias, which do not subside spontaneously and fail to respond to ordinary vagus stimulation, acetyl *b*-methylcholine<sup>14,15</sup> and magnesium sulfate<sup>11</sup> have been shown to be quite effective. Quinidine, in large doses, is the drug of choice in ventricular tachycardia.

Complete auriculoventricular block offers another illustration that emphasizes the value of a precise diagnosis. The Stokes-Adams attacks that occur in this condition have until recently always been considered to be the result of ventricular arrest. We now know that ventricular fibrillation (or flutter) may also cause

\* I recently saw a patient in a well known cardiac clinic who had had digitalis for two years because of what was considered to be auricular fibrillation. A tracing was taken for permanent record and to the chagrin of all concerned it secretly showed numerous auricular extrasystoles.

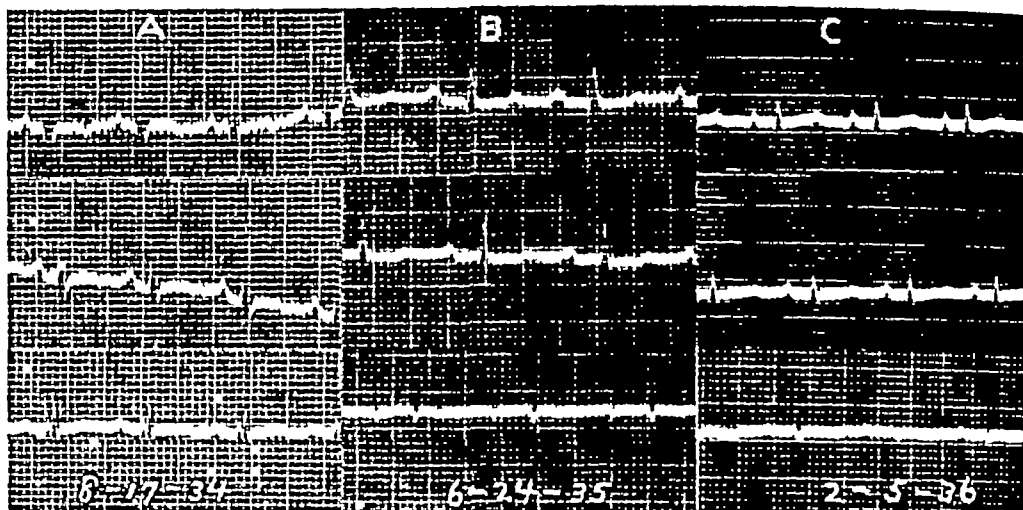


FIG 4 Case of constrictive pericarditis showing progressive diminution in voltage over period of two years (A) taken during stage of acute pericarditis shows convex ST segments and inverted T waves in lead 1 and 2

such fainting episodes<sup>8,12</sup> The importance of this differentiation is readily realized when the therapy is considered Epinephrine is certainly the drug of choice when the former condition is present, but in the presence of ventricular fibrillation it is definitely contraindicated While visiting the wards of Dr Camille Lian at the Tenon Hospital in Paris, I had the pleasure of seeing acetyl-*b*-methylcholine administered for the latter condition with excellent results It seemed capable of terminating and preventing the seizures Obviously, it would be dangerous to give acetyl-*b*-methylcholine in the presence of ventricular arrest.

Occasionally one encounters a confusing record with gross irregularity due to overdigitalization In such instances, startling results are witnessed through the use of  $\frac{1}{80}$  gr of atropine

An electrocardiogram should most certainly be made where the nature of a cardiac irregularity is obscure It will identify parasystole, the various types of extrasystoles, the different degrees of auriculoventricular block, etc., but it must not be expected to indicate the etiology or in any way serve as a complete cardiac investigation

The gallop rhythm and double apical impulse have been popularized as clinical signs of bundle-branch block, and al-

though they do suggest its presence, a definite diagnosis can only be made through electrocardiography

Bundle-branch block has been observed as a temporary sign during acute infections, angina pectoris, coronary thrombosis, and various toxic states When it develops as the result of a coronary occlusion it is likely to be permanent, in which case all other electrocardiographic evidences of the infarction are obscured The most common cause of a bundle-branch block is coronary atherosclerosis Accompanied by low voltage in all three leads, it is designated as an arborization block, the exact pathology of which is uncertain

The combination of a bundle-branch block and short P-R interval, occurring in healthy young adults who are prone to have attacks of paroxysmal tachycardia or auricular fibrillation, has been described by Wolff, *et al*<sup>45</sup> They believed the condition to be due to a hypertonic vagus I have seen a number of older patients with bundle-branch block secondary to myocardial "damage" who have had attacks of paroxysmal tachycardia following the administration of digitalis One case with the ventricular type of paroxysm may be worth citing

A female, aged 45, had an aneurysm of the left ventricle and a left bundle-

branch block (uncommon type) as the result of one or more coronary closures. She was always in mild failure, and invariably with a change of house officers digitalis was ordered. On three occasions, after receiving approximately 12 gr of digitalis, the patient had a paroxysmal ventricular tachycardia that passed off within ten hours after digitalis was discontinued. These three attacks were the only ones she experienced over a period of four months.

It is conceivable that the digitalis had an effect similar to that described by Wolff, *et al*.<sup>46</sup> Because of this and similar observations, I believe that digitalis should be given cautiously in the presence of a bundle-branch lesion.

The value of bundle branch block as regards prognosis is entirely dependent on the etiology,<sup>47</sup> i.e., when of luetic origin, the prognosis is usually grave, as a congenital lesion, it may be comparatively good. Since it is impossible to recognize the cause of a bundle-branch block by its form on a tracing, we must rely on the clinical findings for a final interpretation.

### Congenital Heart Disease

With the aid of fluoroscopy and electrocardiography, the diagnosis of congenital heart disease has become very satisfactory.<sup>47</sup> The majority of congenital heart lesions in individuals who survive the first two years of life can be accurately diagnosed.

Congenital lesions may produce unusual electrocardiographic tracings with inverted T waves, high S T segments, complete auriculoventricular block, auricular flutter, etc. The most common manifestation is a right preponderance of wide excursion. In fact, a marked right axis deviation should always suggest the possibility of a congenital heart. Dextrocardia, the Eisenmenger complex, pulmonary stenosis, or atresia of the pulmonary conus, with or without other lesions (Tetralogy of Fallot), are among the most common causes of such a deviation.

Where the x ray and physical signs would lead one to suspect a widely patent

foramen ovale, a slight right preponderance with or without auricular fibrillation is a valuable aid in the diagnosis. It is interesting that auricular fibrillation is common with this defect, thus distinguishing it from all other congenital cardiovascular malformations.<sup>48</sup>

An interventricular septal defect can cause a partial or complete auriculoventricular block or a bundle-branch block, but a normal tracing does not exclude this possibility. A cor trilocular atrium may fail to give any electrocardiographic evidence.\*

An electrocardiogram is of no aid in the recognition of a patent ductus arteriosus, coarctation of the aorta, or an abnormal course of the great vessels.

### Miscellaneous

A tracing will give very little evidence of the cardiac reserve. It is impossible to diagnose congestive heart failure by merely reading an electrocardiogram. Where low voltage is present in all three leads, hypothyroidism, constrictive pericarditis,<sup>49</sup> and widespread myocardial fibrosis secondary to coronary sclerosis should be especially considered.<sup>44, 47</sup> The fact that proper therapeutic measures will abolish the low voltage of the first two mentioned is evidence that it can be present without real or permanent myocardial pathology. Large excursions of the Q R S complex are not a sign of good myocardial efficiency, nor have they any bearing on the prognosis. A failing hypertensive heart may show enormous left axis deviation up to the time of exitus. When asked whether the electrocardiogram had any value in prognosis, Sir James MacKenzie is said to have responded, "A heart is, laddie, what a heart'll do."† I believe that still holds true.

Almost any acute infection is capable of causing temporary alterations in the ventricular waves. With the exception of the varying degrees of auriculoventricu-

\* Case of Dr. S. van Creveld, Wilhelminagasthuis, Amsterdam, reported in the *Maandscr. v. Kinder geneeskunde*.

† Related to me by J. W. Linnell, London Hospital, England.

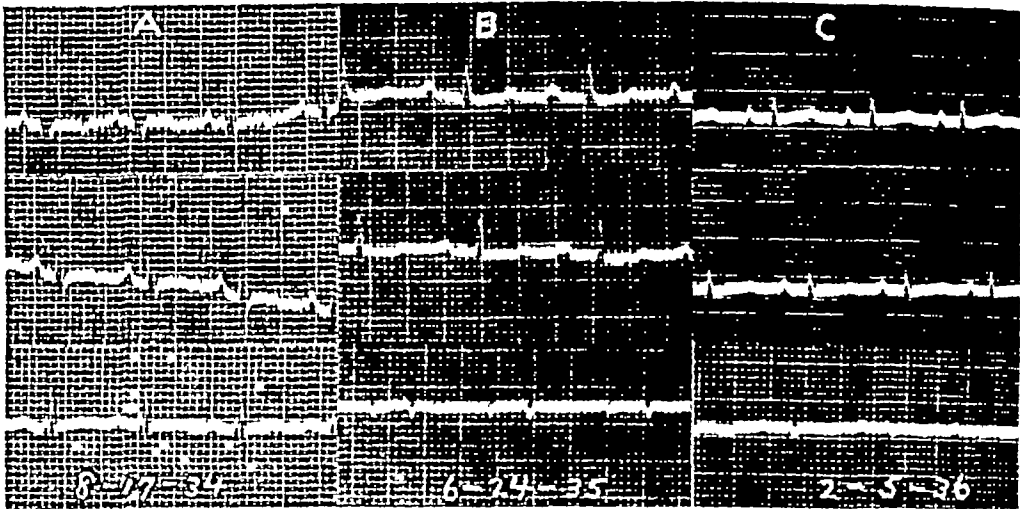


FIG 4 Case of constrictive pericarditis showing progressive diminution in voltage over period of two years (A) taken during stage of acute pericarditis shows convex ST segments and inverted T waves in lead 1 and 2

such fainting episodes<sup>8,12</sup> The importance of this differentiation is readily realized when the therapy is considered Epinephrine is certainly the drug of choice when the former condition is present, but in the presence of ventricular fibrillation it is definitely contraindicated While visiting the wards of Dr Camille Lian at the Tenon Hospital in Paris, I had the pleasure of seeing acetyl-*b*-methylcholine administered for the latter condition with excellent results It seemed capable of terminating and preventing the seizures Obviously, it would be dangerous to give acetyl-*b*-methylcholine in the presence of ventricular arrest

Occasionally one encounters a confusing record with gross irregularity due to overdigitalization In such instances, startling results are witnessed through the use of  $\frac{1}{60}$  gr of atropine

An electrocardiogram should most certainly be made where the nature of a cardiac irregularity is obscure It will identify parasystole, the various types of extrasystoles, the different degrees of auriculoventricular block, etc, but it must not be expected to indicate the etiology or in any way serve as a complete cardiac investigation

The gallop rhythm and double apical impulse have been popularized as clinical signs of bundle-branch block, and al-

though they do suggest its presence, a definite diagnosis can only be made through electrocardiography

Bundle-branch block has been observed as a temporary sign during acute infections, angina pectoris, coronary thrombosis, and various toxic states When it develops as the result of a coronary occlusion it is likely to be permanent, in which case all other electrocardiographic evidences of the infarction are obscured The most common cause of a bundle-branch block is coronary atherosclerosis Accompanied by low voltage in all three leads, it is designated as an arborization block, the exact pathology of which is uncertain

The combination of a bundle-branch block and short P-R interval, occurring in healthy young adults who are prone to have attacks of paroxysmal tachycardia or auricular fibrillation, has been described by Wolff, *et al*<sup>45</sup> They believed the condition to be due to a hypertonic vagus I have seen a number of older patients with bundle-branch block secondary to myocardial "damage" who have had attacks of paroxysmal tachycardia following the administration of digitalis One case with the ventricular type of paroxysm may be worth citing

A female, aged 45, had an aneurysm of the left ventricle and a left bundle-

branch block (uncommon type) as the result of one or more coronary closures. She was always in mild failure, and invariably with a change of house officers digitalis was ordered. On three occasions, after receiving approximately 12 gr of digitalis, the patient had a paroxysmal ventricular tachycardia that passed off within ten hours after digitalis was discontinued. These three attacks were the only ones she experienced over a period of four months.

It is conceivable that the digitalis had an effect similar to that described by Wolff, *et al*.<sup>44</sup> Because of this and similar observations, I believe that digitalis should be given cautiously in the presence of a bundle-branch lesion.

The value of bundle-branch block as regards prognosis is entirely dependent on the etiology,<sup>45</sup> i.e., when of luetic origin, the prognosis is usually grave, as a congenital lesion, it may be comparatively good. Since it is impossible to recognize the cause of a bundle-branch block by its form on a tracing, we must rely on the clinical findings for a final interpretation.

### Congenital Heart Disease

With the aid of fluoroscopy and electrocardiography, the diagnosis of congenital heart disease has become very satisfactory.<sup>47</sup> The majority of congenital heart lesions in individuals who survive the first two years of life can be accurately diagnosed.

Congenital lesions may produce unusual electrocardiographic tracings with inverted T waves, high ST segments, complete auriculoventricular block, auricular flutter, etc. The most common manifestation is a right preponderance of wide excursion. In fact, a marked right axis deviation should always suggest the possibility of a congenital heart. Dextrocardia, the Eisenmenger complex, pulmonary stenosis, or atresia of the pulmonary conus, with or without other lesions (Tetralogy of Fallot), are among the most common causes of such a deviation.

Where the x ray and physical signs would lead one to suspect a widely patent

foramen ovale, a slight right preponderance with or without auricular fibrillation is a valuable aid in the diagnosis. It is interesting that auricular fibrillation is common with this defect, thus distinguishing it from all other congenital cardiovascular malformations.<sup>48</sup>

An interventricular septal defect can cause a partial or complete auriculoventricular block or a bundle branch block, but a normal tracing does not exclude this possibility—a cor trilocular biatrium may fail to give any electrocardiographic evidence.\*

An electrocardiogram is of no aid in the recognition of a patent ductus arteriosus, coarctation of the aorta, or an abnormal course of the great vessels.

### Miscellaneous

A tracing will give very little evidence of the cardiac reserve. It is impossible to diagnose congestive heart failure by merely reading an electrocardiogram. Where low voltage is present in all three leads, hypothyroidism, constrictive pericarditis,<sup>49</sup> and widespread myocardial fibrosis secondary to coronary sclerosis should be especially considered.<sup>44,47</sup> The fact that proper therapeutic measures will abolish the low voltage of the first two mentioned is evidence that it can be present without real or permanent myocardial pathology. Large excursions of the QRS complex are not a sign of good myocardial efficiency, nor have they any bearing on the prognosis. A failing hypertensive heart may show enormous left axis deviation up to the time of exitus. When asked whether the electrocardiogram had any value in prognosis, Sir James MacKenzie is said to have responded, "A heart is, laddie, what a heart'll do."† I believe that still holds true.

Almost any acute infection is capable of causing temporary alterations in the ventricular waves. With the exception of the varying degrees of auriculoventricu-

\* Case of Dr. S. van Creveld, Wilbelminagarthuis, Amsterdam, reported in the *Maandisch v. Kinder*.

† Related to me by J. W. Linnell, London Hospital, England.

enemies, unless it be by men and nations, or threatened with failure of facts to justify our confidence in a continuance of the most encouraging progress of the past decade, the best of a half century of improving national health, we can afford to take stock of what we have created to make the medical sciences practically and economically effective. Disregarding for the moment, as a matter of common knowledge, the still overwhelming part played by the physician as private practitioner in care of the sick and in directing persons and families in the ways of health from the cradle to the grave, or as some would have it, from the womb or before to the tomb and thereafter, let us see what devices society and the state, or medicine and government, have created to bring the consumer and producer of medical services together, and to meet all reasonable demands within the means of the community and the individual to pay for them.

With the growth of specialization in medical training, skills, and experience, and in part as a sequel to the elaboration and great expense of apparatus for diagnosis and treatment of disease, and still more because of inclusion of the application of preventive and curative medicine among the functions of civil government, there has been an increasing diversion of professional personnel and of collective financial resources from the individual to the organized use of medical arts and sciences.

Almost all graduates of medicine, dentistry, and nursing, and their technical associates in the fields of biology, physics, and chemistry, have during their academic or clinical training taken part in the work of some medical service organization, and a very large proportion of them nowadays spend their entire professional careers as working members of some institution or agency devoted to preventive or curative medicine.

Many persons are familiar with the objects, methods, organization, and results of some particular medical ad-

ministration with which they are connected in an employed capacity, and it is obvious that a large proportion of any American community, whether urban or rural, comes into personal relation with one or more of the voluntary or governmental agencies of medical service each year, whether seeking personal care in sickness or receiving, in a remote way, some protection through the local or state health department.

Few physicians or representatives of the laity are, however, even superficially acquainted with the wide scope, varied character, and close interrelationship of the many public facilities for organized care of the sick and for public health.

Just as the individual physician in his private relationship with his patients distinguishes in the emphasis and occasion of his interest in preventive and curative activities, at the same time recognizing the necessity and value of the closest possible correlation of the two for the benefit of the patient and family, so in the field of administrative medicine, institutions and agencies do generally and properly select and equip themselves to meet the needs of some one particular specialty within the fields of sickness care and health protection while each organization shares in some degree in advancing both.

While for publicity, and perhaps for political convenience, there is some excuse for including both under the one label of public health, there seem to be compelling reasons of function, cost, and specialization of personnel, objectives, and techniques that justify a clear distinction between such organized services as are intended primarily for the determination of a diagnosis and provision of treatment for the sick individual, and those intended to protect the public health.

The term "Organized Care of the Sick" will be sufficiently defined by listing those special functions served by institutions and agencies generally found in a mature urban society of today, and recognized as necessary to meet our ambition for humane, competent, and economical

care of the sick, namely hospital care for bed patients, outpatient care for the ambulatory sick, convalescent homes to complete recovery, institutional care of the chronically ill, visiting nurse service for the sick at home, ambulance service, medical social service, home medical care.

For a precise definition of public health as a community service I offer the following. Public health services consist of the application of the sciences of preventive medicine through civil government for social ends. For military needs and under certain conditions of emergency or catastrophe, the health of the civilian population is protected by other than the resources of civil government. Diagnosis and care of the sick, particularly of persons who must be isolated to prevent the spread of communicable disease, may be included among the duties of a public health service as an incident in the accomplishment of its main objectives. Voluntary or nonofficial agencies may take a part in communal services more properly the function of civil government, but such agencies are or should be in all instances enjoying a privilege as nonprofit corporations, serving public purposes under the law and thus essentially within the control of government. With these qualifications, however, the definition offered appears to be accurate and sufficient.

The public health, while merely an expression of the composite health of many individuals, is a social rather than an individual objective. Not the person but the crowd is the preoccupation of the health department of local and state government, and to this end a half-dozen functions are found indispensable. Recording, tabulating, analyzing, interpreting, and publishing the natality, morbidity, and mortality experience of the community—so-called vital statistics, control and prevention of communicable diseases, control of environmental factors related to health, i.e., sanitation or public health engineering, public health laboratory service, protection of mater-

nity, infancy, and childhood, public health education.

However much the practitioner of medicine in his personal and individual capacity may share from choice or by legal obligation in one or many of the administrative functions of organized care of the sick or of public health, there will remain important, and I believe invaluable, distinctions between his services as privately engaged at the request of patients seeking his opinions, skills, and the free exercise of his judgment, and such activities as he undertakes as a member of an organization, bound, limited, and controlled by group decisions, adjustments, standards, and terms of employment. There is no greater compulsion upon the physician, or safeguard for the protection of the patient, than the unequivocal and universal acceptance under the law of the physician's personal responsibility for his every professional act, unless it be his moral and public acknowledgment of adherence to the Oath of Hippocrates. Corporate practice of medicine is illegal, hazardous, and irresponsible in the professional sense. Financial or commercial profit intervention between physician and patient is inconsistent with the best interests of the patient.

Administrative medicine through its social instruments, its institutions and agencies, seeks to increase their utility and economy, and expand to universal availability the services of those trained in medical arts and science without loss of that quality of personal competence and responsibility which the law requires of the doctor of medicine as an individual practitioner.

This is not the time or place to deal with the elaborate systems of coordination among the hospital and health agencies separately, and between these two groups of public utilities, by the mechanism of community councils and similar central, controlling, policy forming, or fund raising agencies. Hospital and health councils are a peculiarly American product, indigenous in most large cities, and essen-



tial for the proper interrelation and smooth functioning of the member agencies. In this way, competing institutional interests are reconciled with those of the supporting and served fractions of the public.

The relations among the several categories of institutions, between those of like kind, and with the public and the medical profession are intricate, delicately balanced, and in general well adjusted in the process of community organization, in response to steadily increasing technical demands for excellence, and under the pressure of financial necessity. The familiar pattern of organization of voluntary institutions serving a medical purpose is that of a nonprofit corporation with a board of trustees responsible for property, and a medical board responsible for professional standards, personnel, methods, and results, the physician on duty in all instances acting in his professional capacity in direct personal relation to the patient. Governmental institutions for the sick, whether local, state, or federal, operate under substantially similar forms, public authority of the appropriate political jurisdiction taking the place of the corporate board of trustees of the voluntary institution, the medical staff representing often a form of unitary rather than group control, and financial support being wholly in the form of appropriation of tax monies.

The capital investment in institutions and agencies for care of the sick in the eleven-and-a-half million people of the urban and suburban New York metropolitan area amounts to about \$62.52 per capita and the annual maintenance cost of these facilities including depreciation is equivalent to \$10.17 per capita. While these figures are probably somewhat higher for this, the largest of the world's urban aggregates, than for the United States as a whole, or for smaller cities, it is probable that equivalent sums will have to be spent by any modern community if it decides to avail itself of all the resources of modern medicine as New York has attempted to do.

For organized official and nonofficial agencies, local, state, and federal, serving the standard public health functions as defined, a little less than \$1.00 per capita is spent on the average annually by the people of the United States. Of this amount about 60 cents is paid through local and state government, 22 cents through federal government, 10 cents through voluntary or nonofficial health agencies, and 3.5 cents through philanthropic foundations. The cost of water purification and sewage works, which are considered engineering services and not functions of health departments, amounts to an additional 38.5 cents per capita.

At present, grants-in-aid to the states through the United States Public Health Service and the Children's Bureau for specified health purposes and for medical care of certain categories of persons, vary from 11 cents per capita in the states of New York and Pennsylvania, up to \$2.02 per capita in the State of Nevada.

While there are important differences in the number and scope of health functions performed by the departments of health of the forty-eight states, and while methods of budgeting and accounting for state appropriations for these services lack a desirable comparability, nevertheless the range of variation in the per capita expenditures for official health purposes by states in 1938 suggests essential differences that cannot be equalized by federal grants or administrative pressure without what many will consider extravagance. At the lowest expenditure level we find Kansas with 3 cents per capita, and Nebraska and Oregon with 4 cents, the highest per capita expenditure, \$1.31, being in Delaware, 79 cents in Massachusetts, and 43 cents in New York. The *how* and *by whom* and *what for* are at least as important as *how much* is expended for public health.

With the resources and cooperation of the private practitioner of medicine, and the organized institutions and agencies referred to above, the people of the United States have achieved an unprecedented improvement in health in the past three-

quarters of a century. Without entering here upon the details of the record it is certainly true that the increase in average age at death, the reduction of incidence and death rates from the known preventable diseases, and the improvement in probability of survival of the child bearing woman and her offspring, have been uninterrupted in all the years of our most serious, extensive, and enduring economic and social confusion from 1929 to date. Furthermore, it is apparent that for the nation as a whole, and, with rare and insignificant exceptions, for each of its major regional, state, urban, and rural political jurisdictions, for that great fraction of our wage-earning population included among the industrially insured, and for each economic and racial group in our population, the year 1938 stands out as the healthiest in our history. In fact it can be said without fear of contradiction that not before in man's recorded history has so large a population under one government, so varied in race, economic circumstances, climatic and employment conditions, enjoyed so much security, protection, and relief from the natural causes of death. The 130,000,000 people of our nation have found ways, according to their means, to obtain by private individual initiative, through their local and state governments, and with the protection in interstate and international commerce of the federal government, an increased quantity, improved quality, and a greater personal and social security in the field of health than has been attained by any comparable population under other forms of government, or by other methods of distribution or organization, or support of the curative and preventive resources of the medical sciences.

Among the many experiments and proposals evolved by officers of the federal government since 1933 to recapture industrial prosperity, financial stability, and social contentment and to set us on a new and broader highway of progress so much desired by both patients and doctors (as Kipling once defined the two

groups under which all people may be classified), our active federal administration has suggested a great extension of the role of the Public Health Service, of the Children's Bureau, and of the but recently created Social Security Board as builders, administrators, and pay masters for health services.

With the health objectives hoped for all will be in sympathy. With the evidence or claims of past failure and limited success of existing services and resources for their support, some of us may hesitate to agree. We are now immediately concerned with the methods proposed, for they appear to threaten the further development of some of our best tried and most productive agencies for the care of the sick, also to replace relationships delicately adjusted and carefully balanced among local, state, and federal governments and between physician and patient, with administrative devices and financial control that are untested in domestic experience and not invariably credited with improvement in the quality of medical care for the sick or a superior character of health services in other countries, or at all certain to keep the medical sciences in our own country free from the blight of officialdom.

There appear to me some fallacies in the assumption upon which the extension of federal spending for sickness care and health protection seem to be based. It is assumed that the health of the people of the United States is neglected and of a low order. The record is consistent to the contrary effect. There are obvious inequalities in the health status of some considerable groups of the population, those suffering from inadequate service of a medical and sanitary nature are certainly also handicapped in practically all other respects. The causes are not principally those of failure of medical administration but are inherent in the social, economic, and educational disadvantages of these same people. Increased spending by government for medical care will serve no permanent good where economic and social stagnation prevail. Improve-

ment in medical services whether for the sick or the well is more likely to result from increase in productive employment, in education, and in standards of living than to be the cause of these. Such social backwardness, delay in economic development, and public niggardliness as have deprived some states and more limited areas, counties, and cities of the best fruits of the medical arts have not been due to the failure of the medical profession to offer, organize for, or promote these ends so much as to the low levels of understanding, ambition, and financial resources of the people. The final and total remedy of these undesirable situations will come through the slow processes of economic and social, educational and ethical reconstruction rather than from immediate and, in some respects, extravagant federal subsidy for medical services which the people of the particular localities cannot sustain and are not socially prepared to demand or make competent use of.

A second assumption, which has been sedulously broadcast as if based upon good evidence, and used by the President, by his departmental chiefs, and by the senatorial proponent of enabling legislation to implement the principles of the proposed program for national health by immediate national expenditures on a large and rapidly increasing scale, is that about one-third, or some 40,000,000, of the people of the United States are unable to obtain, and in fact need, but cannot get, medical care in sickness. This assumption comes from an uncritical and unjustified reading of the records of the so-called "National Health Survey," which in fact although national in the statistical sense was as far as possible from being a survey of health.

In collecting the original information included under the title "National Health Survey," a record was made by persons untrained in the vicissitudes of medical history-taking of the illnesses causing interference with usual work or activities for seven days or more, remembered by some adult in each of 700,000 families

for the last twelve months' experience of about 2,300,000 members of these households. Varying with income status there were from 70 to 83 per cent of the remembered illnesses of which it was reported that the sick person had been served by a physician or medical institution. So far as practicable these reports of service were verified. As was to be expected, reports of more cases of sickness, and of less professional attendance were found among the sick with annual incomes of less than \$3,000, or on relief, than among those whose income was \$3,000 or over.

What was not asked by the army of surveyors was why the remembered case of illness did not have medical attention. Certainly there are many persons at all economic levels who know enough of their medical needs and have preferences of sufficient strength in the matter of treatment of their ills, to justify at least in their minds their not calling upon, or being visited by a physician. Wherever there exists in an American community a visiting nurse service, the sick will call for their skilled assistance, and in a good proportion of these calls the nurse finds that medical attendance or her own return visit would not profit the patient. In the last 11,000 calls upon a visiting nurse service in three large boroughs of New York City, and in these by the poorest people in the community, only 13 per cent of the cases lacked medical care of an acceptable kind. There are multitudes of people who dose and diet and manipulate themselves for even long periods of illness and not mainly because of the lack of the price of the doctor's visit. There is certainly a great deal of seven-day-or-more disability from illness or injury for which time, patience, and courage are as likely to help the patient as generous application of diagnostic resources to give a label to the disease and therapeutic means to relieve passing and perhaps unavoidable discomfort. There can be no doubt in the minds of persons engaged in the practice of general medicine that many

people prefer not to have a doctor for their familiar illnesses. While it is clear from the published reports of this extensive study that the authors have not made unreasonable deductions but have limited themselves to the relation of the facts of record, those persons in of ficial and social life concerned with federal policy formation, with propaganda, with politics, with promotion of social attitudes and support of legislation, have not hesitated to declare that a third or more of our population lacks medical attendance, and to imply in familiar and subtle ways that the chief reason for this is the lack of competent distribution and organization of physicians to meet the public needs. You will find this idea spread throughout the free and the official press that 40,000,000 Americans lack needed medical care. This statement has been commented upon in foreign periodicals.

What has been read out of the "National Health Survey" by officers in prominent positions in our federal government, as it has been used to influence public policy and bring discredit upon the humanity, competence, and service of the medical profession in our country appears to me to be contrary to widespread experience, both medical and lay, which shows that those who need medical care and want it are receiving it, except where poverty and sparsity of population groups have prevented physicians from settling among them, or distance and delay in transportation have made immediate medical services impracticable.

On the basis of the two assumptions of poor and neglected national health and lack of medical care for forty millions of our people, another is built, namely, that much increased expenditure for sickness and health services will make great improvements in general well being, regardless of the pre-existing and still continuing economic and social inequalities that afflict a large part of the population.

Experience of local and state health officers is that in general, appropriations

for health have increased absolutely and in relation to other items of cost of civil government in the past thirty years about as fast as local and state communities have been able to afford, and as widely as trained personnel have been obtainable to carry out the increasingly difficult and responsible technologic procedures.

Furthermore, it must be recalled that all tax money withdrawn from a state by the federal government to be allocated for purposes determined to be preferentially desirable by chiefs of federal bureaus, after subtraction of a portion to maintain federal officers and offices and supervisory and controlling functions, hampers the state by just this amount in its own self determined policies of local government. No one will cavil at the helping of less fortunate states by granting them aid from their wealthier neighbors through the medium of some single competent federal health agency. But when each of the three federal grantors of subsidies selects two major objects of expenditure, almost everywhere recognized as functions of state and local government, and in the main provided for up to the limit of local resources and for this sixfold purpose through a tripartite administration from Washington demands greatly increased tax revenue from each state to return according to a balanced formula in some proportion to each state, then we have a right to consider if the original and secondary assumptions are sound. Grants to the needy states are quite a different matter from turning over income from all states to be doled out to all states by persons less acquainted with the wishes and needs of the respective localities than are the officers of the communities themselves.

And yet even this entry into and interference with local self determination might be understood and accepted with good grace if there were any real support for a fourth assumption that has been exploited on the basis of what was called a

National Health Conference," namely, that there is a widespread, spontaneous,

informed demand by the laity, and particularly by the unemployed, the unemployable, the relief and subsistence-level wage earners, by organized labor, by agricultural laborers and others, for an amount and quality of medical care and health protection not now available to them, and not to be obtained for them by the usual and traditional channels of local and state government, and from their own tax-supported institutions and agencies. Surely a hand-picked collection of a couple of hundred persons, even though representing influential groups of both consumers and producers of medical care, but be it noted in no instance designated to speak with authority on behalf of their constituencies on the merit of the facts or proposals, surely such a group cannot be thought of as competent to endorse so considerable an innovation in governmental practice and balance, even if it had had time and opportunity to read, hear, study, and discuss the enormous mass of matter presented under the aegis of the Interdepartmental Committee and its technical aids, which was not the case. General, free, open discussion was impossible from the very time limitations under which the members met. There was no *conference*, there was no adjustment, compromise, concession, or agreement undertaken or arrived at. The formula and pattern of the occasion were familiar. Predigested material widely publicized by advance agents of the government was delivered in concentrated form to an audience mostly heavily conditioned by careful selection, and weighted in favor of the proposals, under circumstances that forbade serious arguments pro or con. Furthermore, until the form that enabling legislation was to take had been determined upon, all the conferees could say was "interesting if true, and what is to happen next?" Instead of an impression of an informed popular demand, we see the carefully manipulated results of ingenious, persistent, organized, and costly federal propaganda and publicity, the chief object of which would appear to be to

create in the public mind a sense of abuse, of neglect, of dissatisfaction with present medical care for the poor and the wage-earner, and with health services for everyone.

Now that we have the expression of a federal health policy before us in legal phraseology in the Wagner National Health Bill, Senate Bill 1620, we can determine the extent to which opposition and support has been brought to bear.

There is an assumption inherent in the conditions of the Wagner bill that appears to be of major importance, namely, that the health officers and their staff of state and subordinate jurisdictions of civil government who have in the main been appointed, trained, and qualified for expert services for health protection, where not selected only on political qualifications, can, by virtue of increased appropriations, more particularly federal grants to the states and under federal regulation and restrictive standards, deal expertly with the elaborate services required for the sick in hospitals, dispensaries, and in individual homes, in spite of their lack of clinical qualifications or familiarity with diagnosis and treatment of general medical and surgical conditions. The state health officer is the person who will be responsible on behalf of the state to receive and expend the increased federal and matched state monies called for under the Wagner act. It will be his duty to direct state employees in the general practice of obstetrics, pediatrics, and orthopedics, as well as to serve his usual functions as executive officer of a department of public health.

A clear distinction should be made and accepted between the functions of public health to be carried out under officers trained and experienced in this specialty of applied medical science, and the care of the sick, which with very rare exceptions, state, city, and county health officers are unqualified to undertake or direct. Health officers are chosen, where they are appointed on the basis of professional qualifications, not because they are highly skilled in diagnosis and treatment

of general illness, medical, surgical, and clinical specialties, but because they have trained themselves in the administrative application of preventive measures of sanitation, communicable disease control, and in the fields of maternity and child hygiene and in industrial hygiene. One might as well call on the cobbler to repair the radio set as to expect the health officer to be a leader in management of general disease in the community.

It is not now, and it should not be allowed to become, the function of a local or state department of health to engage in the practice of general curative medicine, which should continue to be as it is now, a function of the medical profession and of the medical institutions and agencies created by society and local government by voluntary and official resources for the purpose of affording good care for the sick.

Health departments should not be expected to engage in the practice of obstetrics, pediatrics, or orthopedics. These are functions of the medical profession and medical institutions, and only under rare and backward conditions of social and economic development will the health authorities find it necessary to administer, by physicians and nurses under their official direction, medical services for women and children, which in the usual standards of life in the United States are carried out through the private relationship between family and family physician, and wherever available with the assistance of the visiting nurse.

Some familiarity with state and local health officers convinces me that the quality and attention to their principal duties, i.e., prevention of disease and promotion of health, will suffer deterioration if the major expenditures under their jurisdiction and hence public and political and political interest, are for the care of general sickness. A slight acquaintance with the performance of health services will reveal to any critical physician many crudities and omissions that can be remedied best by concentration of the attention of experts on sani-

tation and preventive medicine. Public health is a vocational specialty of administrative medicine which has begun to emerge from the undifferentiated mass of medicine as did the clinical specialties. Organized care of the sick, as known to hospital administrators and medical boards and the clinical specialties requires at least as much expertness and experience as does the direction of a health department. Few indeed are the health officers or departments of cities, with health and hospitals under one director, where excellent health work in either field can be found over any considerable period of time.

Again the vicissitudes of partisan politics and the irresponsibility of elected governors of many of our states in the appointment and dismissal of the state health officer makes any thoughtful citizen, particularly if he be a physician, hesitate to vest in such an appointive officer responsibility for duties, decisions, and policies requiring a high degree of permanence of position, and freedom to exercise professional rather than political discretion. Consideration of the terms of office, length of services, qualifications, and accomplishments of the state health officers of the past two decades will, I believe, persuade an unprejudiced student of government of the unwisdom of loading upon the office or person of state health commissioner the burden of organized care of the sick at government expense, while the service for health still falls so far short of its optimum and possible performance in a good many states, and among these some of our largest in both area and population.

There is one further assumption that is less clearly expressed but nevertheless has been voiced with some emphasis among proponents of expansion of federal functions in the medical field. I refer to the suggestion that by the use of federal funds the education of physicians, sanitarians, nurses, and other related personnel required in the public health field can be extended and hastened.

better by federal subsidy to individuals and favored institutions, than by independent development of student bodies and institutions now engaged in professional education

There is no experience, accomplishment, or leadership in the field of professional education among the officers or employees of the federal government of a quality equal to what is to be found in the nonpolitical state and endowed institutions in the United States today

Every draft of tax funds from the states to be distributed according to some federal formula or departmental criterion starves and hampers the states that have means to carry their own loads and share with their neighbors, and replaces self-dependence and local initiative and resourcefulness in the backward and impoverished states by encouraging their dependence upon federal doles for purely local and state functions for care of the sick and for public health

Fortunately, I believe, the Wagner National Health Bill does not provide for a federal compulsory sickness insurance scheme, but it is important to note that if any state adopts for its people such a plan for medical care of low income groups, large federal funds would be available if authorized and appropriated under such an act to assist in initiating it and giving it financial stability. If any such state legislation should become effective we should probably find that the device of federally abetted state compulsion of sickness insurance schemes upon certain classes of the population, who are especially dependent because of low earning power and lack of facilities for effective voluntary association to carry the cost of sickness, would represent a mere repetition of the unsatisfactory systems of medical services developed in the era of social deception and central governmental dominance by Bismarck and Lloyd George, neither of which has brought adequacy, superiority, or professional or lay satisfaction to Germany or Great Britain

It is my present opinion that the provisions of the Wagner Health Bill are such that if it were enacted and the appropriations were authorized as intended, public health would be set back rather than advanced. It seems to me that the policy of which this bill is the first specific federal expression would tend to destroy the strongest motives of self-reliance and local and state responsibility by creating a sense of dependence upon remote federal officers, unfamiliar with the respective needs, ambitions, and capacities of the widely varied state populations and governments

Only a threatened social calamity of catastrophic proportions would seem to me to justify such a revolution in the proper control over functions reserved by the Constitution to the police powers of the states.

There is much that can and should be done by and within the federal government which might raise the prestige and improve the performance of administrative medicine for the sick and for health throughout the nation. It would appear by the wording of Executive Order 7481 of October, 1936, that the President expected his Interdepartmental Committee to prepare a plan for better coordination of the health and welfare functions of the federal government. This committee appears to have been more concerned with using federal money to affect the performance of health services in the states than with putting the federal health house in order

The following are suggested as desirable changes in organization and classification of policies which might improve the nation's health through a federal health service

- 1 An inclusive, all-embracing department of health with a Secretary of the President's Cabinet at its head and a permanent commissioned medical officer in charge of all its executive functions. With the exception of the Division of Vital Statistics of the Bureau of the Census and the medical services of the Army and Navy, all medical care and

public health functions of the federal government should be under this department, and all grants-in aid to the states for medical and health purposes should issue through an officer of this department and not through three bureaus as at present.

2 Grants-in aid to the states should be made only to those states that can be shown to be so disadvantaged by economic, racial, or sanitary factors that they cannot provide even a reasonable minimum or necessary quantity and quality of health protection for their population or to assume reasonable health protection for the people of contiguous states

3 Research in the medical sciences should be developed at the highest level and in any fields where it is evident that state or local, voluntary or official resources are insufficient to make the best

use of the expanding fields of knowledge for prevention of disease

4. Channels of communication and means of distribution should be developed for the widest educational use of information which will be helpful to the laity and to the professions concerned with the application of the medical sciences. Among the uses of educational publicity should be included information upon the shortcomings and reasons therefore which prevent the people of a state or states from reaping the benefits of competent health services

5 The federal government should refrain from using its powers of taxation to usurp police powers reserved to the states by the Constitution, and should avoid even the appearance of coercion by the use of grants in aid to lead state governments into the practice of so-called general curative medicine.

### Deaths of New York State Physicians

| Name                  | Age | Medical School     | Date of Death | Residence     |
|-----------------------|-----|--------------------|---------------|---------------|
| Lawrence D. Alexander | 61  | Virginia, U & Bell | April 23      | Manhattan     |
| Frank E. Benjamin     | 71  | P & S              | April 30      | Riverhead     |
| Edward G. Cox         | 71  | Albany             | May 5         | Gilbertsville |
| Emory A. Didama       | 77  | Syracuse           | April 14      | Cortland      |
| Joseph A. Dillon      | 69  | P & S              | May 3         | Manhattan     |
| James C. Fitch        | 76  | N Y U              | April 22      | Manhattan     |
| Bernard Frankel       | 70  | N Y U              | April 23      | Bronx         |
| John Frevola          | 44  | U & Bell           | April 28      | Brooklyn      |
| Harrie A. James       | 78  | N Y U              | May 2         | Manhattan     |
| Marcus Junger         | 64  | Cracow             | April 28      | Bronx         |
| Alexander Lambert     | 77  | P & S              | May 9         | Manhattan     |
| Claude C. Lytle       | 65  | Syracuse           | May 3         | Geneva        |
| John A. Manzella      | 33  | Padua              | April 18      | Cohoes        |
| James T. McKenna      | 76  | Albany             | April 17      | Troy          |
| Walter C. Moodie      | 56  | Nebraska           | May 7         | Valhalla      |
| Lawrence J. Osborne   | 70  | Dartmouth          | April 28      | Manhattan     |
| Norbert Rieser        | 43  | Freiburg           | May 3         | Manhattan     |
| Irving H. Russotto    | 46  | Univ & Bell        | April 8       | Bronx         |
| McClelland Shellman   | 30  | Minnesota          | May 6         | Manhattan     |
| Harvey L. Van Pelt    | 61  | Cornell            | April 26      | Ithaca        |
| Philip G. Wickens     | 30  | Rochester          | April 13      | Rochester     |



# HOUSE OF DELEGATES

## MINUTES OF THE ANNUAL MEETING

April 24 and 25, 1939

The 133rd Annual Meeting of the House of Delegates of the Medical Society of the State of New York was held at the Syracuse Hotel, Syracuse, New York, on Monday, April 24, 1939, at 10 15 A M

Dr James M Flynn, Speaker, Dr Louis H Bauer, Vice-Speaker, Dr Peter Irving, Secretary, Dr Edward C Podvin, Assistant Secretary

**SPEAKER FLYNN** The House will be in order

### 1 Report of the Reference Committee on Credentials

**SPEAKER FLYNN** The Chair recognizes Dr Peter Irving, Chairman of the Reference Committee on Credentials

**SECRETARY IRVING** Mr Speaker, there are no disputed delegations, and all those seated are entitled to vote

**SPEAKER FLYNN** I now declare the 133rd Session of the House of Delegates open for the transaction of business

### 2 Roll Call

The Secretary called the roll by counties and stated "There is a quorum present"

### 3. In Memoriam of Three Departed Members

**SPEAKER FLYNN** Will the members of the House kindly rise in memory of three who have passed on since the last session Arthur G Root, Frederick H Flaherty, and Carl Boettiger The members rose and stood for a moment in silence in memory of these departed members

### 4 Approval of the Minutes of the 1938 Session

**SECRETARY IRVING** I move that the reading of the minutes be dispensed with, and that they be approved as published in the JOURNAL in the June 15, July 1, July 15, and August 1, 1938, issues

The motion was seconded, and unanimously carried

### 5 Reference Committees

**SPEAKER FLYNN** Mr Secretary, please read the appointments of the reference committees

**SECRETARY IRVING** I move you, sir, that the reports of the officers and committees which have been published and distributed to the members of the House be referred to the respective reference committees without reading

The motion was seconded, and there being no discussion, was put to a vote, and was unanimously carried

The reference committees for 1939 are as follows

#### REFERENCE COMMITTEE ON CREDENTIALS

Peter Irving, *Chairman*, New York  
Edward C Podvin, Bronx  
John L Sengstack, Suffolk  
Arthur C Hartnagel, Tioga  
Bernard S Strait, Yates

#### REFERENCE COMMITTEE ON REPORT OF PRESIDENT

Robert Brittain, *Chairman*, Delaware  
William W Street, Onondaga  
Coburn A L Campbell, Suffolk  
Howard Fox, New York  
Herbert H Bauckus, Erie

#### REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART I

Introduction  
Postgraduate Medical Education (also supplementary report)  
Public Health Matters  
Maternal Welfare  
Walter D Ludlum, *Chairman*, Kings  
Horace M Hicks, Montgomery  
John J Buettner, Onondaga  
W Grant Cooper, St Lawrence  
Stephen H Curtis, Rensselaer

#### REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART II

Medical Care Surveys in New York State  
Medical Relief  
Thomas M Brennan, *Chairman*, Kings  
William Hale, Jr, Oneida  
Walter P Anderton, New York  
Edgar O Boggs, Lewis  
Stephen R. Monteith, Rockland

#### REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART III

Medical Expense Nonprofit Indemnity Insurance (also supplementary report)  
Workmen's Compensation (also supplementary report)  
Leo F Simpson, *Chairman*, Monroe  
Edward C Wood, Westchester  
Andrew Sloan, Oneida  
Harvey P Hoffman, Erie  
John B D'Albora, Kings

#### REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART IV

Legislation (also supplementary report)  
Publication and Medical Publicity  
Charles A. Anderson, *Chairman*, Kings  
Edgar Bieber, Chautauqua  
Charles C Trembley, Franklin  
Samuel B Burk, New York  
Morris Maslon, Warren

#### REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART V

Annual Meeting Arrangements  
The late Dr Frederick H Flaherty  
'M D' License Plates  
New York State Board Nominations  
Malpractice Group Plan Insurance  
Revision of Principles of Professional Conduct (special committee)  
Homer J Knickerbocker, *Chairman*, Ontario  
Francis N Kimball, New York  
Daniel J Swan, Queens  
Willard H. Veeder, Monroe  
Thurber Le Win, Erie

#### REFERENCE COMMITTEE ON REPORTS OF SECRETARY, CENSORS, AND DISTRICT BRANCHES

Louis A. Van Kleeck, *Chairman*, Nassau  
William B Cornell, Albany  
J Stanley Kenney, New York  
William A. MacVay, Monroe  
Albert A. Gartner, Erie

# REFERENCE COMMITTEE ON REPORTS OF TREASURER AND TRUSTEES

Supplementary Report of Treasurer  
Frederic E. Soudern Chairman New York  
Aaron Sobel, Dutchess  
Peter J. DiNatale, Genesee  
William Klein, Bronx  
John J. Rooney Monroe

# REFERENCE COMMITTEE ON REPORT OF LEGAL COUNSEL

Edward H. Conniffe Chairman Bronx  
Harry C. Gages, Erie  
Alfred M. Hoffman, New York  
Albert O. Swift, Oneonta  
Morwin E. Marsland, Westchester

# REFERENCE COMMITTEE ON NEW BUSINESS A

George Baehr Chairman New York  
William C. Treder Schenectady  
G. Scott Towne, Saratoga  
Arthur F. Heyl, Westchester  
Richard H. Sherwood Niagara

# REFERENCE COMMITTEE ON NEW BUSINESS B

Frederic C. Conway Chairman Albany  
Emily D. Barringer New York  
James M. Dobbins, Queens  
Lawrence D. Redway Westchester  
Clarence V. Costello, Monroe

# REFERENCE COMMITTEE ON NEW BUSINESS C

Floyd J. Atwell, Chairman Otsego  
J. Lewis Amster Bronx  
Alec N. Thomson, Kings  
George A. Burgin Herkimer  
Leo F. Schiff Clinton

**SPEAKER FLYNN** There are tables in the rear of the room and also in the balcony for each and every reference committee, and each one is plainly marked. In the rear of the room there are stenographers waiting to type the four copies that are needed of resolutions and reports of reference committees. I take this occasion to advise all of those who wish to submit resolutions or any of those wishing to take up business with the committees to consult them in their different places where they will conduct the business of the committee.

Are there any supplementary reports?

**SECRETARY IRVING** Mr Speaker there have been distributed mimeographed sheets to every member, which contain a supplementary report on legislation from the Council Committee on Legislation and a supplementary report to Part III on Medical Expense Indemnity Insurance from the Council.

# 6. Supplementary Report of Council Committee on Legislation—Part IV

## Section 74

The annual report of the Council Committee on Legislation appearing in the March 15 issue of the *New York State Journal of Medicine* is incomplete, because even at this writing the Legislature is still in session and obviously therefore, a final report cannot be given as to the disposition of the bills in which we as medical men are interested. Perhaps through a last minute bulletin we may keep you informed.

For the sake of emphasis on the extreme importance of having a closely knit legislative setup and, even at the risk of repetition, we should like to explain briefly our plan. All bills introduced in Albany in which there is even the most remote possibility of medical interest are reviewed by our Executive Officer

Dr Joseph S. Lawrence, and through his very efficient secretary Miss Briggs, mailed to the members of the Legislative Committee and County Chairmen and are reviewed for the members of our bulletin mailing list. Bulletins are mailed frequently by the Committee indicating our action in short briefs, and when possible the legislative action on the various bills.

County Chairmen are asked to have committees large enough to detail one member to each legislator in the district. Every member of the County Committee is an important cog in the machinery and if he fails to contact his legislator or does not familiarize himself with the bill under discussion there is a distinct breakdown in our system.

The Legislative Committee is deeply grateful to all of the County Legislative Chairmen and members of their committees for their close cooperation and hard work. We wish to exhort them never to become discouraged, for not infrequently despite many contacts, we find that bills which we have either opposed or approved vigorously are adversely voted upon by almost all of the members of one or the other political party. This malady is apparently incurable.

The Committee studies every bill very carefully in order to decide whether to support or oppose it and all comments received from County Committees and bulletin readers are likewise carefully considered before a decision is reached. If a bill relates only to a particular field in the practice of medicine, advice is sought from leading physicians in those specialties.

No one can deny that organized medicine is being continually placed in a defensive position. Magazines, radio newspapers, propaganda or ganizers and orators, even from our own ranks, seem to have banded together to disseminate reams of misinformation. Are we sufficiently aroused as to the type of propaganda and technique on our own doorstep? Consider for a moment Bill S-1620 introduced in the United States Senate by Mr. Wagner. This bill is also known as the National Health Act of 1939. It has been said that in some respects this measure is a greater menace than such previously Wagner sponsored legislation as the NRA and the National Labor Relations Act. It is also stated that the sponsors of this bill consider its passage at this session of Congress unimportant but that it is the opening gun of a fight that will be carried through 1940.

For eight months, preparation by movies, radio and other means of propaganda, including criminal prosecution of medical associations and physicians, has been under way. An attempt has been made to create the impression that American Medicine is inadequate, that a crisis in medical care is imminent and, that the only solution of the entire problem is State Medicine.

In our own state we have the Goldstein and recent Wagner bills. Both are subtle and adroit enabling bills which allow federal agencies at their discretion to allocate funds to the states on a basis of population or of the financial resources of the state. This would give Mississippi and Arkansas (low income states) two federal dollars to each state-expended dollar at the expense of the more populous states such as New York State. Bills like the Goldstein and Wag-

ner, Jr, have a large popular appeal, the backing of labor and a huge group of socialistically inclined individuals. Such bills have already been introduced in seven states.

It must be apparent that our Legislative Bureau is one of the most important branches of our activities. Every member of our Society should consider himself or herself a member of a vast legislative committee. Someone has said that at some time a doctor enters every home. Do we realize our potential strength?

We are fortunate indeed that our Legislative Bureau is under the efficient guidance of Dr Joseph S Lawrence, a veteran in the service and one thoroughly familiar with legislative procedure. In order to fortify and make our position at Albany more secure, the Committee on Legislation has a suggestion to make. We feel that we should have been seriously embarrassed last winter in the event that anything had occurred, as for instance illness, to deprive us temporarily of Dr Lawrence's services.

There are many more contacts and perhaps closer ones that could be made with our county units if the Executive Officer were provided with an assistant. Much of the detail work, such as compiling information for bulletins, routine office work, etc., could be done by such an officer.

Various individuals have suggested that the Executive Officer and the Legislative Bureau should have legal representation in Albany. I would call your attention to the fact that the counsel for the Medical Society of the State of New York has always given freely and cheerfully as much of his time as was needed. In addition to this, a retired Judge of the Supreme Court, living in Albany, examines and gives his opinion to the Executive Officer on all medical legislation.

The business of the Medical Society of the State of New York at Albany has always been conducted in a dignified and honorable way and the Council Committee on Legislation feels that the Society should never be officially represented there except by a graduate in medicine.

In our zeal to combat outstanding objectionable legislation, we are likely to forget that many other bills are presented to the Legislature which also need attention. Thus far thirty-nine bills have been reported killed in committee this year. Many of these were opposed by us. A few of those killed we had approved. Particularly among these were the radiology bill and several automobile insurance bills. The chiropractic bill could not be killed in committee, but was defeated on the Assembly Floor. The osteopathy bill could not be defeated in the Assembly Committee, either, and it passed the Assembly, but with no marginal votes. Seventy-six votes are required for the passage of a bill in the Assembly and the osteopaths mustered just exactly that number of votes. Our lien bill and full-citizenship bill were reported by their respective reference committees to the Committee on Rules in the Assembly. We hope that they will in time be reported out.

The amendment to the Insurance Law, which will permit organization of medical indemnity corporations, has passed the Assembly and is with the Insurance Committee in the Senate.

In spite of serious efforts to change the amendment by the representatives of the hospital insurance corporations, so as to permit of one corporation supplying both hospital service and medical indemnity insurance, the bill was not amended and remains as we had approved it last summer. The prospects of this bill being enacted into law are very good.

There still remain before the Assembly seventy-two bills in which we have more or less interest and several of these are outright health insurance bills, while some others are modified propositions for socializing medicine. So long as the Legislature remains in session it is possible that bills will continue to be introduced and now it seems as though there is little prospect of adjournment before the middle of May.

## 7 Supplementary Report of Council on Medical Expense Indemnity Insurance—Part III

### Sections 30, 67

In the field of Medical Expense Insurance, the Council presents for discussion the following

### *Tentative Basis and Suggestions for Plans for Medical Expense Indemnity Insurance*

- 1 It must be nonprofit
- 2 It should involve cash indemnity and not medical service
- 3 Patients must have absolute freedom of choice in selecting a duly qualified physician from all those qualified to practice and willing to give service within the locality covered by the operation of the company
- 4 No third party may be permitted to come between the patient and his physician in any medical relation. The method of providing service must retain a permanent confidential relation between the patient and the physician
- 5 The fees should not be below those of the Workmen's Compensation schedule, but there must be no interference with higher fees being charged to the higher income group
- 6 All features of medical service must be under the control of the medical profession. This includes all medical phases of institutions involved in the service, it being understood that hospital service is but the extension of the equipment of the physician. Also there should be no restriction on treatment or prescribing not formulated and enforced by the organized medical profession
7. The eventual aim of any plan should be to cover medical care in the office, home, and hospital, although at the start it may not be possible from an actuarial standpoint to cover all of these in one policy.

SECRETARY IRVING There will also come from the Council, to be presented by Dr Thomas P Farmer, Chairman of the Council Committee on Public Health and Education, a report from that Committee, which I think should be read at this time. It has not been distributed

## 8 Supplementary Report of Council Committee on Public Health and Education—Part I

### Section 46

**DR. THOMAS P. FARMER** The Council wishes to make the following supplementary report in regard to certain recommendations made to the Council by its Committee on Public Health and Education at the last meeting of the Council on April 18

*Four-day Institute on Dietetics*—For a long time, the Council Committee on Public Health and Education, and its predecessor, the Standing Committee on Public Health and Medical Education, have given consideration to plans for the extension of the State Medical Society's program on medical education for physicians. These committees have felt that it would be desirable to establish graduate courses in residence at various centers throughout the state. The success of the Pneumonia Institutes held during the past two years have encouraged the Committee to feel that such courses would be enthusiastically received by the profession and of practical advantage to the physician. The Council Committee on Public Health and Education is now prepared to organize a course of lectures on Dietetics which would include twelve lectures on the relationship of diet to health and various diseases given by well known authorities in this field, with each lecture supplemented by demonstrations on practical dietetics by capable dietitians. An outline for such a course has been prepared through the cooperation of the Committee and the New York Dietetic Association. This proposed Institute could be organized to be given in the fall of this year at one of the universities of the state, in cooperation with its College of Medicine and its College of Home Economics and if successful could be readily repeated in other places. It is proposed to have these lectures given in four whole-day sessions, with three subjects considered each day. An attendance of from fifty to one-hundred physicians could be cared for. The Committee suggests that a registration fee of ten dollars be charged, not only to aid in defraying the expenses of this Institute in whole or in part, but also to assure a regular attendance and to assure those who have registered that they will not be disturbed by a vacillating attendance. The Commissioner of the State Department of Health has intimated that this plan would receive financial support from that Department. The Council would like from the House of Delegates an expression as to their approval of the plan in regard to the various matters mentioned.

*Reallocation of School Funds*—This subject was brought to the attention of the Council through a resolution received from the Westchester County Medical Society. This resolution called attention to the fact that school authorities placed an unnatural emphasis on attendance records in order to avail themselves of the largest amount of state funds possible and leads these authorities to cause children to attend school who are afflicted with minor non disabling but highly contagious physical conditions and that this condition is dangerous from

the standpoint of public health both for the child afflicted and for his schoolmates. The Council Committee on Public Health and Education has discussed this matter with a group representing physicians school administrators school teachers, public health authorities and representatives of the State Departments of Health and Education. While there is unanimity of opinion that it is highly undesirable for children afflicted with any illness, regardless of its disabling character to be allowed to attend school on the other hand it is still questionable whether a change in the method of the allocation of state funds for common schools would accomplish this result. Furthermore until a satisfactory alternative method for allocating these funds has been proposed which would not have this drawback it would seem undesirable to recommend such a change. In the meanwhile it does seem desirable to draw to the attention of the school authorities teachers, and physicians the fact that the prompt exclusion of all children suffering from any illness is essential from the standpoint of public health and results in higher annual attendance according to reliable experience. The Committee also recommends that steps be taken to remedy conditions whereby a community suffering from a local epidemic would not be penalized because of this in the matter of granting state funds.

*School Health Work*—The recent inquiry made by the State Board of Regents as pertains to school health work. At the same time that the Council Committee discussed the matter of the reallocation of school funds, it considered this question with the same group. It was the consensus of opinion of the group that because several suggestions made in this study were of doubtful value and that other methods than those proposed in the report should be studied this was a matter of importance to all physicians and the Committee should continue its conferences on this subject.

*Sulfanilamide—Restriction of the Sale of Sulfanilamide and its Derivatives* as well as other drugs, to sale on physicians' prescriptions only. The Council Committee recommended some time ago to the Council that proper steps should be taken to have necessary regulations included in the Sanitary Code, by the Public Health Council to accomplish these results. The Secretary of the State Society has informed the Public Health Council of this action but it is questionable whether the Public Health Council has the authority to proceed in this matter or whether the proper regulations can be effected by the State Board of Pharmacy. If this can not be done the Council Committee recommends the initiation of proper legislation for this purpose.

**SPEAKER FLYNN** That will be referred to Reference Committee on the Council—Part I

## 9 Supplementary Report of Council Committee on Workmen's Compensation—Part III

### Section 68

**DR. DAVID J. KALIEKI** I am not going to read a supplementary report. I merely wish to announce that I have available a number of matters for the Reference Committee. Among

those are certain uniform standards for the qualification of physicians which we have been working on for more than a year and which are now available for consideration

We also have the partial results of a questionnaire which was sent out to the various County Societies of the state asking their opinion about various aspects of the Workmen's Compensation Law

We have to announce that a conference between the insurance carrier's organization and the hospitals throughout the state has resulted in a uniform standard of fees for hospital service both in the metropolitan area and in the upstate area

We wish also to announce that with the co-operation of counsel we have instituted a suit, or we are about to institute a suit, against an insurance carrier for violation of certain provisions of the Workmen's Compensation Law in regard to the sending out of lists of physicians. Efforts with the Industrial Council and the Industrial Commissioner have not availed in abating this unfair practice, so the only thing that we could do under the circumstances was to institute a suit against this organization

There are a number of other matters which are pending with the Council in regard to hospital care bills, and these are in the hands of the Council at this time

We also wish to announce that we have made an effort to have the Industrial Commissioner remove the 5 per cent discount which is now permitted for the payment of physicians' bills within a thirty-day period

There is only one final matter of importance, which I have been asked to present to the House more as a matter of information than anything else

Under date of April 11, the Hon Michael J Murphy, Deputy Industrial Commissioner, Department of Labor, has submitted to your Director copy of a memorandum submitted by Mr Murphy to the Director of the Division of Statistical Information of the Department of Labor requesting him to make a study of closed compensation cases in which the medical reports (C-104, C-4) were filed within the period required by law

I am attaching hereto a report prepared by the Department of Labor which indicates that both forms were on file in the Department in only 54.5 per cent of the cases investigated, it further indicates that in only 43.6 per cent of the cases was the C-4 form received by the Department of Labor within the twenty-day period as required by law

The investigation was made to ascertain whether the complaint was justified that the failure to file reports promptly was one reason for the delay in the payment of compensation to the injured workmen and also for the excessive number of notices of controversy filed with the Department

The statistics cover an examination of one thousand New York City closed compensation cases, of accidents occurring on or after January 1, 1938, two and a half years after the new compensation law went into effect

This examination was made in March of 1939 and includes only data from reports filed by the first attending physician. The reports of other

attending physicians on the same cases were not included

Of the 1,000 cases examined 545, or 54.5 per cent, contained both C-4 and C-104 forms, 326 cases, or 32.6 per cent, contained only the C-4 form, 75 cases or 7.5 per cent contained only the C-104 forms, and 54 cases or 5.4 per cent did not contain either a C-4 or C-104 form. The C-4 form was filed in 871 cases or 87.1 per cent, and the form C-104 in 820 cases or 82 per cent of the 1,000 cases examined. In 61.3 per cent of the cases the C-4 forms were signed within the twenty-day period by the first attending physician, but in only 43.6 per cent of such cases were these forms received by the Department of Labor within twenty days or less. In 63.2 per cent cases they were received between 20-30 days, in 73.1 per cent within 40 days, in 88 per cent of all cases the physicians signed the C-104 form within two days or less, but in only 40.5 per cent of these cases were the forms received by the Department within two days or less. However, in 80.4 per cent the Department received the forms in from three to five days. The tables (pages 1131, 1132) give the data on file.

From these reports and studies, it would seem that after two and a half years from the date the new law went into effect, many physicians throughout the city were not complying with the rules and regulations of the Department of Labor and the law in filing their reports on time, and were thus prejudicing the interests of the injured claimant, in so far as prompt payment of compensation for time lost is concerned

The complaint of the insurance carriers that the delay in paying compensation is occasionally due to the failure of the attending physician to file the necessary reports on time in order to enable the carrier to adjudicate the patient's claim for compensation seems to be justified.

It is obvious that the insurance carriers are overlooking the strict letter of the law of section 13-a(4) which states

"No claim for medical or surgical treatment shall be valid and enforceable, unless within forty-eight hours following the first treatment the physician giving such treatment furnish to the employer and Industrial Commissioner a preliminary notice, and within twenty days thereafter a more complete report. The Industrial Commissioner may excuse the failure to give such notices within the designated periods when it finds it to be in the interest of justice to do so."

In very few instances have insurance carriers insisted that physicians who have failed to file their reports on time appear before the Industrial Board for excuse in accordance with the above section

Under the circumstances and in view of the results of dilatory filing, which prejudice both the claimant's and the doctor's interests, medical societies and Workmen's Compensation Boards throughout the state should make a concerted effort to bring home to all those who have been qualified under the Workmen's Compensation Law the necessity of prompt submission of the required reports on the acceptance of treatment of a compensation claimant

I will make available to the Reference Committee the complete report.

TABLES NEW YORK STATE DEPARTMENT OF LABOR  
Division of Statistics and Information

Special Procedure Study Promptness in Filing Forms C-4 and C 104 by First Attending Physician  
(Based on 1,000 closed compensated cases—New York City Office—for accidents occurring on and after January 1 1938)

TABLE 1—NUMBER AND PER CENT OF TOTAL CASES WITH FORMS FILED BY FIRST ATTENDING PHYSICIANS

| Cases with         | Number of Cases | Percentage of Total |
|--------------------|-----------------|---------------------|
| Both C-4 and C 104 | 545             | 54.5                |
| C-4 only           | 36              | 3.6                 |
| C 104 only         | 76              | 7.6                 |
| No C-4 or C-104    | 54              | 5.4                 |
| Total              | 1000            | 100.0               |

TABLE 2—NUMBER AND PER CENT OF FORMS FILED BY FIRST ATTENDING PHYSICIAN

| Form  | Cases Examined | Forms Filed | Per cent Forms Filed |
|-------|----------------|-------------|----------------------|
| C-4   | 1000           | 871         | 87.1                 |
| C 104 | 1000           | 620         | 62.0                 |

TABLE 3—NUMBER OF TABULATED FORMS FILED

| Form  | Total Number of Forms Filed | Tabulated Forms | Total | Nontabulatable Forms Date of First Treatment Not Stated |    |
|-------|-----------------------------|-----------------|-------|---|----|
|       |                             |                 |       | Signature Not Stated                                    |    |
| C-4   | 871                         | 770             | 101   | 85  | 16 |
| C-104 | 620                         | 612             | 8     | 1   | 7  |

TABLE 4—PROMPTNESS OF SIGNING FORM C-4

(Days Elapsed from Date of First Treatment to Date of Signing Report)

| Days Elapsed | Number of Forms Filed | Percentage of Total | Days Elapsed | Number of Forms Filed | Percentage |
|--------------|-----------------------|---------------------|--------------|-----------------------|------------|
| 2 or less    | 85                    | 11.0                | 3 or less    | 85                    | 11.0       |
| 3-5          | 30                    | 5.1                 | 5 or less    | 144                   | 16.1       |
| 6-10         | 90                    | 11.7                | 10 or less   | 214                   | 27.8       |
| 11-15        | 125                   | 16.2                | 15 or less   | 329                   | 44.0       |
| 16-20        | 133                   | 17.3                | 20 or less   | 472                   | 61.3       |
| 21-25        | 89                    | 11.6                | 25 or less   | 561                   | 72.9       |
| 26-30        | 55                    | 7.1                 | 30 or less   | 616                   | 80.0       |
| Over 30      | 154                   | 20.0                | Over 30      | 154                   | 20.0       |
|              | 770                   | 100.0               |              | 770                   | 100.0      |

TABLE 5—PROMPTNESS IN FILING FORM C-4

(Days Elapsed from Date of First Treatment to Date of Receipt of Report by Department)\*

| Days Elapsed | Number of Forms Filed | Total Percentage | Days Elapsed | Number of Forms Filed | Percentage |
|--------------|-----------------------|------------------|--------------|-----------------------|------------|
| 20 or less   | 336                   | 43.6             | 20 or less   | 336                   | 43.6       |
| 21-30        | 151                   | 19.6             | 30 or less   | 487                   | 63.2       |
| 31-40        | 76                    | 9.9              | 40 or less   | 563                   | 73.1       |
| 41-50        | 50                    | 6.5              | 50 or less   | 613                   | 79.6       |
| 51-60        | 42                    | 5.5              | 60 or less   | 635                   | 83.1       |
| 61-70        | 30                    | 3.9              | 70 or less   | 635                   | 83.0       |
| Over 70      | 85                    | 11.0             | Over 70      | 85                    | 11.0       |
|              | 770                   | 100.0            |              | 770                   | 100.0      |

\* Includes 96 forms for which date of first hearing was substituted for date of receipt by department due to absence of department's stamp on forms.

TABLE 6.—PROMPTNESS IN SIGNING FORM C 104

(Days Elapsed from Date of First Treatment to Date of Signing Report)

| Days Elapsed | Number of Forms Filed | Percentage of Total | Days Elapsed | Number of Forms Filed | Percentage |
|--------------|-----------------------|---------------------|--------------|-----------------------|------------|
| 2 or less    | 339                   | 58.0                | 2 or less    | 339                   | 58.0       |
| 3-5          | 35                    | 6.2                 | 5 or less    | 577                   | 94.2       |
| 6-10         | 13                    | 2.1                 | 10 or less   | 590                   | 96.3       |
| 11-15        | 8                     | 1.3                 | 15 or less   | 598                   | 97.6       |
| 16-20        |                       |                     |              |                       |            |
| 21-25        | 4                     | 7                   | 25 or less   | 602                   | 98.3       |
| 26-30        | 4                     | 7                   | 30 or less   | 606                   | 99.0       |
| Over 30      | 6                     | 1.0                 | Over 30      | 6                     | 1.0        |
|              | 613                   | 100.0               |              | 612                   | 100.0      |

**SPEAKER FLYNN** This report or address by the President-Elect will be referred to the Committee on the Report of the President, Dr Brittain, Chairman

#### 14 Introduction of Delegates from Other State Medical Societies

Are there any delegates from Connecticut, New Jersey, or Vermont present?

**SECRETARY IRVING** There are delegates appointed from all three of those State Societies, but so far I have only heard of Dr George G Marshall, of the Vermont State Society, being present

**SPEAKER FLYNN** Will you kindly rise, Dr Marshall?

(There was applause as Dr Marshall rose)

**SPEAKER FLYNN** I extend to you the courtesy of the floor

**SECRETARY IRVING** Are there any delegates here from Connecticut and New Jersey?

(There was no response)

**SECRETARY IRVING** Dr Charles H Turkington, of Litchfield, and Dr D Chester Brown, of Danbury, have been appointed by the Connecticut State Society, Dr E Zeh Hawkes, of Newark, and Dr Frederic J Quigley, of Union City, have been appointed by the New Jersey State Society They may appear later, Mr Speaker

#### 15 Amendments and Revision of Constitution and Bylaws

##### *Sections 58, 89*

**SPEAKER FLYNN** If there is no objection from the floor, the Chair will rule that the subject of amendments and revision to the Constitution and Bylaws be taken up as the first business of the evening session

(There was no dissent)

**SPEAKER FLYNN** Since there is no objection, it is so ordered

The floor is now open for the introduction of resolutions

#### 16 Race, Color, and Creed Restrictions on Physicians

##### *Section 49*

**DR. PETER M MURRAY, New York** Mr Speaker and Gentlemen of the House of Delegates of the Medical Society of the State of New York, I wish to introduce one or two resolutions, but before doing so I want to make a few remarks explaining them

This House of Delegates is an inspiring sight, and as I sat here and listened to each speaker and heard reference made to the need of affiliation of every ethical practitioner with organized medicine, a great many thoughts ran through my mind When I think of the conditions in the State of New York and the liberality and honesty with which the democratic principle is administered so far as membership in organized medicine is concerned, I have every reason to be grateful because in other parts of this country those same conditions do not obtain I need not say to you anything more in support of a movement to include and enlist every ethical practitioner in the entire United States of America into the ranks of organized medicine. You men who control organized medicine realize that better than I

There are thirteen million colored people in the United States of America There are over 5,000 colored doctors There more than 350 colored doctors in New York State Now, what is the relation between the two? As liberal as the State of New York has been toward accepting members of my race into membership, there are still areas in which the medical profession of the State of New York can improve its treatment of minority groups I refer specifically to the opportunities as afforded in the clinics and the medical schools and the hospitals and the various public health enterprises But beyond that, on a wider horizon, lie the vast areas of this country where membership and affiliation in organized medicine is impossible, for below the Mason-Dixon Line members of my race are systematically excluded from the benefits and responsibilities of organized medicine Then, it must naturally follow that these thirteen million people, who provide the keenest health problems of any racial group in this great democracy, must of necessity receive a lowered quality of medical care if the men who are charged with their care cannot enjoy and benefit by the privileges and opportunities which organized medicine confers

There is one word that I wish to say about the political aspect in the various proposals for the care of public health which are now before us for consideration A great deal of missionary work and, I dare say, propaganda has been done among the people of my group to get them to favor all phases of the Federal Health Program We have stood out against it because we know that the welfare of the American people in general, and the welfare of my racial group in particular, will not be conserved under the proposed Federal Health plans (Applause)

It is true that there are certain aspects of those plans, especially those relating to the indigent group, that would inure to our benefit, but in the plans calling for the care of those above the indigency level and for whom compulsory health insurance has been proposed, their care will suffer The public health of the group to which I belong will suffer immeasurably by the adoption of any such compulsory health program, and we are unitedly against any such proposal But we can fight more effectively if we are within the ranks We will not be such easy prey to misrepresentation and propaganda.

When I tell you that a great political issue may hang on the balance of the votes of the people of my group in the various border states, you can see how important it is that those people be deprived of the issue that the Negro doctor is not treated fairly and squarely by the American Medical Association They discount the fact of the liberality of such states as New York but they do point to the fact of the narrowness and the bigotry of the other parts of the country I cite you as a specific instance the District of Columbia, the capital of our great nation, where we have a grade "A" medical school and where the American Medical Association is now under fire, and where it is a rigid and absolute rule to exclude all Negroes from participation in the affairs of organized medicine through membership in that County Society Gentlemen, that is a condition that New York cannot sit and observe with equanimity without realizing

that it is a weakness in the democratic structure which may imperil the entire structure. I want to offer the following resolutions

WHEREAS, a rapidly changing social order is demanding a reorientation of the attitudes and responsibilities of individuals and agencies engaged in providing for the medical care of the public, and

WHEREAS, the entire strength of all elements engaged in the practice of medicine should present a united front in facing and solving these problems in the interest of the public health and

WHEREAS the Negro physician numbering more than 5 000 in the United States and about 350 in New York State, bears the direct responsibility for the care of approximately thirteen million citizens whose collective health problems form one of the most challenging areas in the entire battle line against sickness and disease and

WHEREAS, these physicians have not only demonstrated individually and collectively their ethical and professional fitness to shoulder their just responsibilities, but have shown a zeal and a devotion to the health problems of their people worthy of the best traditions of American medicine, and

WHEREAS, the best interests of the entire medical profession and indeed of the entire public, demand that they receive identical opportunity for medical education for professional experience in hospital and clinic for participation in public health programs, public and private in short all of the rights privileges, and responsibilities inherent in regular membership in organized medicine and

WHEREAS the County Medical Society is the basic unit of the A.M.A. membership in which is a prerequisite for membership in the A.M.A. and

WHEREAS, south of the Mason Dixon Line, Negro physicians are generally and systematically excluded from County Medical Society membership making membership in the A.M.A. and affiliation with organized medicine impossible, and

WHEREAS, this exclusion along racial lines strikes at the fundamental rights of this large group of physicians and indirectly lowers the quality of medical care which they must deliver to an already underprivileged group whose health problems admittedly press more firmly for solution than those of any other racial group and

WHEREAS, these Negro physicians have time and again demonstrated their constancy and heroic devotion to the democratic form of government and all which that term implies and have strongly recorded their position toward the pending medico-economic issues as identical with that of organized medicine therefore be it

Resolved that the Medical Society of the State of New York through its House of Delegates, records as its considered opinion that any and all restrictions imposed on any minority group solely on the basis of race or religion is not only inimical to the cause of the public health with which we are so deeply concerned

but dangerous to the entire body politic of our democratic form of government for, if these restrictions can be imposed with impunity on any helpless minority today who knows to what group it may spread tomorrow and be it further

Resolved that the members of the New York State Medical Society especially those in positions of key responsibility in educational charitable and public health enterprises such as medical schools, hospitals clinics etc. be, and are hereby urged to seriously consider the removal of these restrictions as a matter not only of simple justice, but in the light of their inherent capacity to hamper and restrict the entire medical profession in rendering the best possible service to the public and further that they be urged to use their good offices and influence in removing all restrictions based solely on race or religion to the end that our proud boast of a truly democratic form of government a truly liberal and unselfish medical profession be less honored in the breach than in the observance and be it further

Resolved that the House of Delegates of the Medical Society of the State of New York instruct its delegates to the House of Delegates of the American Medical Association to present at its next meeting and to use every honorable means to secure its passage, the following resolution to wit

Resolved that the House of Delegates of the American Medical Association declare its belief that membership in the various constituent County Societies of the American Medical Association should not be denied to any person solely on the basis of race color or religion

SPEAKER FLYNN This resolution of Dr Murray is referred to the Reference Committee on New Business B of which Dr Fred Eric C Conway is Chairman.

The Speaker takes this occasion to advise you that those who wish to present further resolutions should have them typed according to form four copies and that this will be taken care of by the stenographers in the rear of the hall

## 17 Physicians' Home Inc.

### Section 55

SECRETARY IRVING The Council recommends the adoption of the following resolution

WHEREAS, the Physicians Home, Inc has formally asked the Medical Society of the State of New York to nominate a number of physicians for appointment to its Board of Directors and

WHEREAS, the Physicians Home was incorporated with an endowment by bequest for the following purposes (a) to create and maintain in the State of New York a home for aged indigent physicians and their wives or widows and to give assistance financial or otherwise to such physicians and their wives and widows and orphans and needy minor children of physicians and (b) to do all things necessary suitable and proper to accomplish and further the purposes described in (a) above and particularly to receive and acquire by grant gift purchase devise, bequest or otherwise property



of all kinds and to hold, maintain, invest, accumulate, and dispose thereof or the income therefrom for said purposes, all in the manner prescribed or permitted by applicable law, and

WHEREAS, the Home is at present caring for five aged physicians who are without funds, and

WHEREAS, nominations to its Board of Directors would in no way make the Medical Society of the State of New York responsible for the conduct of this work, financially or otherwise, and

WHEREAS, the objectives of the Home are highly meritorious, therefore be it

*Resolved* that the House of Delegates of the Medical Society of the State of New York accede to the request of the Physicians' Home, Incorporated, for nominations to its Board of Directors, and be it further

*Resolved* that the House of Delegates instruct the Council to make nominations for the Board of Directors of the Physicians' Home, Incorporated, when sought

SPEAKER FLYNN This resolution of the Council is referred to the Reference Committee on New Business C, of which Dr Floyd J Atwell is Chairman

## 18 Principles of Professional Conduct for New Licensees

### Section 42

DR FRANCIS N KIMBALL, *New York* The Medical Society of the County of New York has requested that the following resolution be presented

*Resolved* that the Secretary of the State Board of Medical Examiners be requested to send to the Secretary of the Medical Society of the State of New York the name of each person to whom they issue a license to practice medicine in the State of New York, and be it further

*Resolved* that the Secretary of the Medical Society of the State of New York be and is hereby instructed to send a copy of the Principles of Professional Conduct of the Medical Society of the State of New York to each person to whom a license is issued to practice medicine in the State of New York, together with a letter of explanation and an invitation to join the local County Medical Society

SPEAKER FLYNN This resolution of Dr Kimball's is referred to the Reference Committee on New Business A, of which Dr George Baehr is Chairman

## 19 Changes in Administration of Welfare Medical Relief Practice

### Section 80

DR M R BRADNER, *Orange* This resolution is submitted by Orange County in the interest of the practice of medicine in public welfare cases and as a suggestion for the economy of the taxpayers of the state It is not anticipated that the following resolution should conflict with the Council Report on Medical Relief Practice It simply goes a step farther!

WHEREAS, the economic disturbances in this

country have greatly increased the previous number of persons who found it financially difficult or impossible to provide for themselves adequate medical care, and have so produced a volume of work far beyond the financial ability of hospitals and doctors to maintain under the head of charity, as was previously done, and therefore have produced a problem requiring the use of public funds and the enactment of laws for appropriation and administration, and

WHEREAS, the application of these laws has developed a vast mechanism of administration, which it is believed costs far more than the cost of actual services rendered to the poor, and

WHEREAS, this total Bill of Relief has become a serious burden upon the taxpayer and also, with the unnecessary complications of report and record, together with the failure on the part of certain localities to accept and enforce certain of these welfare laws, has produced a serious hardship upon the medical profession, and

WHEREAS, indigents and partial indigents do receive medical care where needed, in spite of the refusal on the part of certain public welfare officials to pay physicians and hospitals for their services, as is provided for by the existing laws, and

WHEREAS, this chaotic state is due to a lack of uniform, fair, and efficient methods of application of the existing law in cities, counties, and townships, with overemphasis on centralized administrative control in the State Department, and

WHEREAS, the general public has been encouraged in placing the blame for the existing confusion and expense upon the medical profession with the result that further laws and complications are at present being suggested, which cannot fail to work a greater hardship to the taxpayer, the patient, and the doctor, therefore be it

*Resolved* that the Medical Society of the State of New York denies responsibility for the present state of affairs in matters of medical relief, and that

This Society believes that certain modifications of the existing welfare laws in this state, together with radical changes in their administration, can effect a vast economy in operation and provide adequate medical care for all those who require public assistance, and that these basic changes should include

1 An agreement entered into between this Society and the Government of the State of New York combining the acceptance on the part of the physician of the care of all properly authorized welfare patients under the guidance and discipline of the respective County Medical Societies, and the acceptance on the part of the State of a minimum charge fee schedule to be agreed upon, for the treatment of these public welfare patients in office, home, or hospitals, and

2 An agreement entered into between the State Hospital Association and the Government of the State of New York, standardizing a basic charge per day for hospital services rendered

3 An agreement between the Government of the State of New York, the State Medical Society, and the State Hospital Association,

to decide all disputes arising through the interpretation of the law as applied to concrete instance through decisions of a board maintained for that purpose in each county composed of a representative membership of these three agencies, and

4. A uniform organization in each county under a County Commissioner for the complete administration of welfare law direction and coordinating local township welfare agencies, and concentrating records and accounting satisfactory for audit in the county by the State Commissioner's representatives and

5. A concentration of agencies and institutions in each county for the purpose of coordination, cooperation, efficiency and economy and

6. The establishment of uniform principles of township welfare organization including the specified type of official acceptable for appointment, and provision for adequate salary and funds for office maintenance and

7. The discontinuance on the part of the State Department of Social Welfare of all the present elaborate methods of accounting and administration, and in place of this the development of this State Department as an agency for guidance and audit from the standpoint of reimbursement to counties from state or federal funds, to the end that the present enormous cost of centralized administration be applied to measures of direct relief, and

8. The adoption of the same system to function in the case of cities a large city to be organized as a county the boroughs being its townships, and a small city to be treated as though it were a separate township in its county and be it further

*Resolved* that these resolutions be drafted in the form of a bill and presented to the State Legislature.

**SPEAKER FLYNN** This resolution of Dr Bradner is referred to the Reference Committee on New Business C, of which Dr Floyd J Atwell is Chairman.

## 20. Appointment of Special Committee on Ophthalmological Public Relations

### Section 47

**DR. STANLEY KENNEY** *New York* As a result of the pernicious propaganda of the optical groups in New York the Chairman of the Advisory Committee on Ophthalmological Public Relations of New York County asked that this resolution be introduced by the delegates of this Society with the approval of the New York County Society

*Resolved* that the Medical Society of the State of New York be requested to appoint a special Committee on Ophthalmological Public Relations at the next meeting of the House of Delegates

**SPEAKER FLYNN** This resolution of Dr Kenney is referred to the Reference Committee on New Business B of which Dr Frederic C Conway is Chairman.

## 21. School Health Work

### Section 48

**DR. ARTHUR F HEYL**, *Westchester* This is a

resolution presented by the Medical Society of the County of Westchester

*WHEREAS* the medical profession should not only participate but assume leadership in determining the future of the school health program in New York State and

*WHEREAS* the recent Inquiry of the State Board of Regents found that the present program is almost entirely uncorrelated with the educational program as a whole and unrelated to any broader community responsibilities and pointed out the need of important changes of policy many of which involve the school physician and the medical profession in the community and

*WHEREAS* there is an evident need for an immediate reconsideration of

1 the economic factors underlying the school medical service

2 the educational qualifications of school physicians and the establishment of professional supervision of their work

3 the professional status of the school physician in the school system and his relationship to his colleagues in the community

4 the proper basis of remuneration for the school physician and the proper scope of his required services

5 the desirable functions of the school physician in health education therefore be it

*Resolved* that the Medical Society of the State of New York appoint a special commission representative of school physicians, private physicians and experts in health education and charge this commission with the duty of formulating recommendations for the House of Delegates looking toward a practical program in answer to the following question

What changes are needed in law and in administrative practice to place the school health service upon a sound economic and professional basis, to equip the school physician for leadership in health education, to correlate the school health program with the educational program as a whole and to correlate the school health inspection service with the official health agencies and the medical profession in the community?

**SPEAKER FLYNN** This resolution of Dr Heyl is referred to the Reference Committee on New Business B of which Dr Frederic C Conway is Chairman

## 22. Investment of Principal in Equities

### Section 93

**DR. WILLIAM H ROSS** This is a resolution presented by the Board of Trustees

*Resolved* that the Board of Trustees be authorized to invest an additional 25 per cent of the Society's investment principal in equities.

**SPEAKER FLYNN** This resolution of Dr Ross is referred to the Committee on Reports of Treasurer and Board of Trustees of which Dr Frederic E Sondern is Chairman.

## 23. Public Medicine Assembly Bill Int. 523

### Section 43

**DR. BENJAMIN DAVIDSON Kings** This is a

resolution not introduced by Kings County but by a minority of one I do not expect any large approval but I am putting this in, perhaps, for the benefit of some future historian (Laughter)

WHEREAS, the remarkable progress and achievements of modern scientific medicine and modern medical education make possible medical facilities and personnel sufficient and competent to provide adequate care in health, illness, and disability for all our people, and

WHEREAS, despite this medical science, facilities and personnel, millions of the people still receive inadequate medical care, and frequently no such care at all, while, at the same time, tens of thousands of our doctors and associated workers are insufficiently employed in their calling and insufficiently remunerated for the professional services rendered by them, and

WHEREAS, the fundamental cause of this public and professional state of affairs is caused by the inability of most of our people to purchase adequate or any medical care for themselves, and primarily due to the private individual or institutional method of rendering medical care on a commodity or fee-for-service basis, and

WHEREAS, the people's health is essentially the people's concern, not less important than education, property protection, or any other public service, and therefore fundamentally is a social or state interest and obligation, no longer to be left to the economic and medical uncertainties of our mercantile methods of securing or providing medical care, with all the evils that necessarily follow therefrom, therefore be it

*Resolved* by this House of Delegates that we approve the reorganization of medical care and practice so as to provide all the medical care needed by our people, and so as to realize in full the true functions and purposes of medical science and art, at the same time assuring to the medical profession and the allied workers concerned in medical care with economic security and adequate conditions needed for the proper pursuit of their professions, and be it further

*Resolved* that we endorse the Bill for Public Medicine known as Assembly Int 523 in order to realize the program outlined above

SPEAKER FLYNN This resolution of Dr Davidson's is referred to the Reference Committee on New Business A, of which Dr George Baher is Chairman

## 24 Women Physicians' Representation in the American Medical Association

### Sections 50, 91

DR EMILY D BARRINGER, *New York* I have a message here from the women physicians and I have been asked to read the following resolution which was unanimously passed at a regular meeting of the Women's Medical Association of New York City on March 8, 1939

WHEREAS, it is a critical time in the history of American medicine when it is important that all physicians should unite in safeguarding the interests of the profession, and

WHEREAS, the American Medical Association especially needs at this time the active interest and loyal support of all its members, and

WHEREAS, there are about 8,000 to 9,000 women physicians in the United States, many of them eligible for membership in the American Medical Association, and many of them already members thereof, and

WHEREAS, these women physicians have in many states organized city associations, state associations, and there is also a national organization known as the American Medical Women's Association and the members thereof have found it difficult to build a powerful organization because of the relatively few women and lack of large funds, and furthermore it is undesirable to segregate the women physicians' interests from the interests of the profession as a whole, and

WHEREAS, the ratio of women physicians to men physicians is so small that the chance of representation in the House of Delegates of the various State Medical Societies is almost nil, and

WHEREAS, we believe that the women's medical organizations have much to give in big visioned ideas, vigorous work, and loyalty if their wishes can only be made articulate, therefore be it

*Resolved* that the Women's Medical Association of New York City in Executive Session, respectfully request and urge the House of Delegates of the Medical Society of the State of New York to recommend to the House of Delegates of the American Medical Association that they grant a seat to a woman delegate in the House of Delegates, that this position shall be permanent and be filled each year by the President or President-Elect of the American Medical Women's Association

SPEAKER FLYNN This resolution of Dr Barringer's is referred to the Reference Committee on New Business B, of which Dr Frederic C Conway is Chairman

## 25 Milmoë Osteopathic Bill—Assembly Int. 1428

### Section 54

DR IRWIN E SIRIS, *Kings* This resolution is presented by the Medical Society of the County of Kings

WHEREAS, osteopathy is a system of treating disease wherein drugs are not used or surgery with instruments performed, and

WHEREAS, there is a bill—Milmoë Assembly Introductory No 1428—which has passed the Assembly and which would permit osteopaths to use drugs, antiseptics, and biological products and perform minor surgical procedures, and

WHEREAS, the bill is indefinite in its construction and we believe impossible of administration, therefore let it be

*Resolved* that the House of Delegates of the Medical Society of the State of New York hereby express its concern for the public welfare and the standards for medical education should this bill become a law,

*Resolved* that this House of Delegates communicate its concern to the Committee on Education of the Senate and inform them of the dangers of permitting unqualified men, the majority of whom have not had the educational requirements established by the Regents of the

State of New York for those who prescribe drugs and perform minor surgery

I move the adoption of this resolution, that a copy be telegraphed to Roy M. Page, Chairman Committee on Education and to Senator Joseph Hanley and John Dunnigan Majority and Minority leaders, respectively of the State Senate, and that the telegrams be confirmed by letters by our State Secretary Dr. Irving

**SPEAKER FLYNN** The resolution of Dr. Gills is referred to the Reference Committee on New Business C, of which Dr. Floyd J. Atwell is Chairman.

## 26. Council to Forward Report of Action of Each Meeting to County Societies

### Section 41

**DR. EDWARD C. WOOD** *Westchester* This resolution is presented by the Medical Society of the County of Westchester

**WHEREAS** it is desirable that the County Medical Societies be directly and currently informed of all actions and policies of the interim-governing body of the State Society therefore be it

**Resolved** that the House of Delegates hereby instructs the Council or other interim governing body to forward a complete record of the actions taken at each meeting of the said governing body to the Secretary of each County Society such report to be forwarded within ten days after each such meeting

**SPEAKER FLYNN** This resolution of Dr. Wood's is referred to the Reference Committee on New Business A, of which Dr. George Baehr is Chairman.

## 27 Foreign Physicians

### Section 80

**SECRETARY IRVING** This resolution was received from the County of Niagara

**Resolved** that the Medical Society of the County of Niagara hereby resolve to request the House of Delegates to oppose admission to New York State of foreign or alien physicians

**SPEAKER FLYNN** This resolution from the Medical Society of the County of Niagara is referred to the Reference Committee on New Business B of which Dr. Frederic C. Conway is Chairman.

Before we recess, I wish to announce that the Afternoon Session will be held in this room, the Evening Session in the small ballroom on this floor and tomorrow's Session at the Plymouth Church.

We will now recess until two o'clock so that the Reference Committees may function. If you have business with them they will be in the balcony and in the rear of the hall and you can appear before them and present your views.

(At 11:50 A.M. a recess was taken.)

## Afternoon Session

Monday, April 24, 1939

The session convened at 2:30 o'clock, pursuant to recess.

**SPEAKER FLYNN** The House will be in order

## 28. New York State Library

### Section 56

**SPEAKER FLYNN** I have a telegram here which I wish to read

Please call Society's attention to fact that proposed 15 per cent cut in already insufficient appropriation for state library means drastic cut in service to physicians because of reduced staff and purchase fund. Prompt protest to Senator Thompson would be appreciated here.

(Signed) Joseph Gavitt Acting Director

**SPEAKER FLYNN** I will refer this telegram to the Reference Committee on New Business C of which Dr. Floyd J. Atwell is Chairman. Are there any further resolutions?

## 29 To Amend the Education Law, in Relation to the Practice of Roentgenology

### Section 82

**DR. THEODORE WEST** *Westchester* I should like to present the following resolution

**WHEREAS**, 1 The Education Law (Art. 48 Section 1250) says "A person practices medicine within the meaning of this article who holds himself out as being able to diagnose any human or physical condition and who shall either offer or undertake by any means or method to diagnose any human disease or physical condition, and

**WHEREAS** 2 The Sausser Case decision (Sausser v. Health Department of the City of New York 242 NY 60) says "making an x-ray photograph is not diagnosis nor (is) mere explanation of what such photograph shows diagnosis," and

**WHEREAS** 3 The court ruling has nullified the Education Law as it relates to the use of x-rays in medical diagnosis and

**WHEREAS**, there is a bill Williamson-Senate Int. 1893 No. 2297 which defines roentgenology as the practice of medicine and will correct the error in the Sausser Case decision therefore be it

**Resolved** that the House of Delegates be requested to give its approval to this bill and a copy of this resolution be sent to our Executive Secretary Dr. Joseph Lawrence.

**SPEAKER FLYNN** The resolution of Dr. West's is referred to the Reference Committee B on New Business, of which Dr. Frederic C. Conway is Chairman.

## 30 Amendment to the Medical Expense Indemnity Insurance Resolution

### Sections 7 67

**DR. W. S. COLLENS** *Kings* This is in reference to the matter in the supplementary report of the Council in connection with the subject of medical expense indemnity insurance. Item 6 in the criteria and provisions and suggestions for plans for medical expense indemnity insurance states

All features of medical service must be under the control of the medical profession.

That statement is somewhat too ambiguous and vague and does not in itself create an opportunity for organized medicine to play any part in the regulation and control of these

medical activities Although left to the medical profession, it may be left to a group of unofficial physicians who represent themselves as a group to conduct this type of venture I wish to amend Item 6, therefore, as follows

"That all phases of medical activity in each county be under the control of its own board elected by the individual County Medical Societies and to function in a fashion similar to that of the Compensation Boards of the various counties These functions to include qualifications of physicians and specialists, determination of fee schedules, arbitration, censorship, expulsion, inspection of cases, regulation of conduct, and ethics"

SPEAKER FLYNN Dr Collens' resolution is referred to the Committee on the Report of the Council—Part III, Dr Leo F Simpson, Chairman

### 31 Free Choice of Physicians in Medical Relief

#### Section 79

DR ALFRED H NOEHRN, *Erie* I have been asked by the Erie County Medical Society to present this resolution

WHEREAS, free choice of physician is the crux of our future destiny,

WHEREAS, the care of the certified medical indigent is becoming a colossal and permanent project,

WHEREAS, this condition will continue to exist by at least 50 per cent of the load today, even if industrial conditions should become better,

WHEREAS, the social welfare agencies are advising and initiating without legislation, by ruling only, more and more control of the medical care of the indigent by full-time physicians,

WHEREAS, some of our County Societies are considering and have accepted the full-time physician for the above-mentioned care, to the possible future detriment of all parties concerned, be it

*Resolved* that the Council of the New York State Medical Society, or a duly appointed committee, promulgate plans and rules for the furtherance of the free choice of physician for the medical care of the certified medical indigent, be it further

*Resolved* that at least twice each year each county unit receive from the Council or Committee advice and instructions to accomplish a state-wide free choice of physician

SPEAKER FLYNN Dr Noehren's report will be referred to the Reference Committee on New Business C, of which Dr Floyd J Atwell is Chairman

### 32 Council Study on Aviation Medicine

#### Section 81

DR BENJAMIN JABLONS, *New York* I might say this is not being introduced for the County Society of New York, but is a personal resolution

WHEREAS, the programs of national defense encompass the creation of a huge aviation force of anywhere from 10,000 to 25,000 planes,

WHEREAS, such a force will create a great many medical problems incident to the proper care and training of a competent personnel, therefore be it

*Resolved* that this subject be referred to the Council for study and action for the purpose of disseminating proper information regarding the physiology and medical possibilities of this phase of medicine

SPEAKER FLYNN Dr Jablons' resolution is referred to the Reference Committee on New Business B, of which Dr Frederic C Conway is Chairman

### 33 Internship as a Requisite for License to Practice Medicine in New York State

#### Section 75

DR CHARLES GULLO, *Livingston* Recently two bills were presented into the Legislature, the Osteopathic Bill and the Chiropractic Bill that you all know about The Osteopathic Bill has been passed in the Assembly so far We, of Livingston County, feel that our Society as a group has done very little constructively to meet the demands of the osteopaths and the chiropractors For many years the osteopaths have had introduced and have tried to have passed such a law as is before the Senate today, and unless we can offer something constructive rather than negative, as we have in the past, I do not believe we have any business to oppose this measure

The State of New York, along with a few other states, allows a graduate upon finishing his education to take an examination and then start to practice medicine without the necessary requirement of internship

May I say this is just a personal resolution as we did not have time in Livingston County to approve this as we meet only once every three months

I believe that the Medical Practice Act should be amended so that every applicant, before entering upon the examination in the State of New York to practice medicine, must also be required to serve an internship of at least one year In that way we will not only safeguard the public so that those who practice medicine are properly trained, but we will be accomplishing something more than that because today, after all, all our graduates practically have to take an internship, but there are those who do not, and if the osteopaths do succeed—and the chances are they might, because we as a group have practically no lobby in Albany I was speaking to one of the members of the Legislature after this thing happened He said at the time that this bill was before the House, the place was swamped with men representing this particular group, but the Medical Society of the State of New York was conspicuous by its absence. If this measure were passed, and this particular amendment to the Practice Act were in force, it would require every osteopath before practicing medicine—medicine that they wish to practice in the State of New York—to have interned in a hospital accepted and approved by the American College of Surgeons, but they will not be equipped to do so unless they take other measures to equip themselves to do it, so the resolution reads

Measures be taken to have enacted into law

1. To require that all applicants to practice medicine in New York State must, besides passing present requirements, be required to spend at least one year as an intern in an acceptable hospital approved by the American College of Surgeons.

SPEAKER FLYNN That first resolution is referred to the Reference Committee on New Business A, of which Dr. George Baehr is Chairman.

### 34 Basic Science Law

#### Section 76

DR. CHARLES GULLO Livingston I have another resolution which refers to the Chiropractic Bill, which was defeated. Our state does not require to our surprise in Livingston County, and I believe to the surprise of the majority of the members of our Society that a man wishing to practice chiropractic need take an examination. He can just set up a shingle any time and any place he pleases. What have we done in the past to combat this? Practically nothing except to say "We don't want you to practice that." They practice it anyhow. There are a few states, however, where they have not gotten away with it so easily and if time—

SPEAKER FLYNN Do you not think it would be better to discuss your resolution when the Committee makes its report?

DR. GULLO Yes It reads

Measures be taken that a law be enacted requiring that all persons desiring to practice any of the branches of medicine such as chiropractic, naturopathy, and other similar groups must, before allowed to practice their art pass an examination on the basic sciences besides meeting present requirements.

SPEAKER FLYNN This second resolution of Dr. Gullo's will be referred to the same Reference Committee on New Business A of which Dr. George Baehr is Chairman

Are there any further resolutions?

### 35. Citizenship as Requirement to Practice Medicine in New York State

#### Section 83

DR. HOMER J. KNICKERBOCKER Ontario I wish to present the following resolution for the Medical Society of the County of Ontario

WHEREAS the Medical Society of the County of Ontario on July 12 1938 adopted an amendment to its Bylaws viz Any person of foreign birth applying for membership in the Medical Society of the County of Ontario, shall present documentary evidence of full citizenship in the United States of America, before such application shall be considered by the Society and

WHEREAS although duly reported to the Council of the Medical Society of the State of New York, no definite ruling has yet been obtained relative to the legality of such addition to the Bylaws of the Medical Society of the County of Ontario, therefore be it

Resolved that such matters of this nature relate to membership in said society

tively within the jurisdiction of individual County Medical Societies.

SPEAKER FLYNN The resolution of Dr. Knickerbocker is referred to the Reference Committee on New Business B of which Dr. Frederic C. Conway is Chairman

### 36. New York State Department of Education - Physician as Director of Division of Health and Physical Education

#### Section 77

DR. C. J. PARSONS Westchester I wish to present the following resolution of the Westchester County Medical Society

WHEREAS, the House of Delegates adopted a resolution in 1938 (See 85 Minutes of the House of Delegates 1938) providing that the Medical Society of the State of New York take such steps and sponsor such legislation as may be necessary to require the appointment of a duly qualified physician as Director of the Division of Health and Physical Education of the State Department of Education, and

WHEREAS, no bill has been introduced into the Legislature or other action been taken to effect such a change in the Education Law therefore be it

Resolved that the House of Delegates reaffirm the resolution passed in 1938, and direct the Council of the State Society to introduce and seek the passage of such legislation, requiring the appointment of a duly qualified physician to the aforementioned directorship

SPEAKER FLYNN The resolution of Dr. Parsons is referred to the Reference Committee on New Business A of which Dr. George Baehr is Chairman

Are there any further resolutions?

(There was no response.)

SPEAKER FLYNN Are there any reports of Reference Committees?

### 37 Report of Reference Committee No. V on Report of Council

#### New Section on Gastroenterology and Proctology--Scientific Assembly Committee

DR. HOMER J. KNICKERBOCKER During the past year a new Section on Gastroenterology and Proctology came into being. Your Committee welcomes this new section and wishes it all success. Your Committee commends the plan whereby the various committees, namely the committee on arrangements, the committee on scientific program, and the committee on scientific exhibits act in concert as a scientific assembly committee. This plan is to be commended because each subdivision retains its individual functions while all the activities are coordinated. We recommend the continuation of this plan.

I move the recommendation of the Committee. The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### Technical Exhibit

DR. KNICKERBOCKER The plan whereby an individual member of a committee of men is to handle the exhibit is well at hand.

ings thereby controlling more easily the character of the exhibits as well as saving commissions usually paid to outside solicitors is endorsed as long as it gives equally good results. We recommend its continuance.

I move the recommendation of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### *The A. Waller Suter Lectureship*

DR. KNICKERBOCKER. The establishment of this Lectureship is gratefully acknowledged. It is our sincere hope that others of like character, perhaps along section lines, may be subsequently established.

We are also duly grateful to Dr. Francis Carter Wood for his generosity in donating to the fund whatever honorarium may be due this year. This would appear to set a precedent that in course of time might build the fund up to the amount originally intended by the testator.

I move the adoption of the report of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### *In Memoriam to Dr. Frederick H. Flaherty*

DR. KNICKERBOCKER. Your Committee feels that no more fitting expression of our esteem could be had, and recommends the adoption verbatim of the resolution unanimously passed by the Council on October 13, 1938.

I move the recommendation of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### *"M D" License Plates*

DR. KNICKERBOCKER. Your Committee endorses the adoption of the report as published, and recommends the continuance of the plan of issuing special "M D" license plates to the members of the State Society. We recommend a vote of thanks to those members whose efforts culminated in securing special automobile license plates for the members. Your Committee respectfully urges that every doctor having these plates be especially cautious not to abuse any possible courtesy which these plates may carry.

It so happens that some of our families have been parking in front of hydrants and in other forbidden territory and have not been pulled in. They probably will be sooner or later.

I move the adoption of the recommendation of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### *New York State Board Nominations*

DR. KNICKERBOCKER. We recommend the adoption of the report as published and the nominations as made. We also desire to express our pleasure at the increasing confidence in the organized medical profession as shown by the various branches of our state government.

I move the recommendation of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### *Changes in Group Plan Rates and Coverage for Malpractice Insurance*

DR. KNICKERBOCKER. We desire to express our gratitude to the Committee which has accomplished so much for our members. We recommend the adoption of the report as published.

I move the recommendation of the Committee.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

DR. KNICKERBOCKER. I would now move the adoption of the Report of the Committee as a whole.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

#### **38 Report of Reference Committee on Report of the Secretary**

DR. LOUIS A. VAN KLEECK, *Nassau*. Before presenting the Report of the Committee on the Report of the Secretary, I wish to state that I, as Chairman of this Reference Committee, do not feel that the Secretary's Report is a reflection of all the numerous activities to which our Secretary has in the past year so wholeheartedly and with such sincere and conscientious effort devoted his whole time, but as your Reference Committee can only report on the Report of the Secretary as submitted I shall proceed to give the Reference Committee's report.

The Reference Committee finds that it is impossible to report in detail on the vast amount of work which has been accomplished by the Secretary since the last Meeting of the House of Delegates, May 9, 1938. During the past administrative year the social and economic aspects of medicine have had a direct relationship on the events of the country in general, and due to these factors the work of the headquarters office has been greatly increased. Many of these matters required most urgent action.

The Committee desires to voice its approval of the comprehension and the efficiency of the headquarters office and also to commend the splendid work and capable judgment of the Secretary.

*Membership.* We note the increase of 1,176 new members and also with profound regret the loss by death of 180 members, with other changes as published in the Report of the Secretary makes a total net gain of 648 as of December 31, 1938. The total increase of membership over the past five years is over 3,000.

We wish to congratulate the twenty honor societies.

We wish to commend the Secretary and the clerical force for the work entailed in keeping the roster of all physicians in the state up to date, as provided in the bylaws.

We approve the action of the Secretary in sending the usual card and explanatory letter to all physicians in the state so that the necessary information for the DIRECTORY may be available at any time that it may be desired.

*Coordination of Activities.* As this subject is covered in the Report of the Council, this Reference Committee refers recommendations to that report.

We feel that the officers of the State Society

should receive gratitude and appreciation of the Society for the time and energy that they have devoted to the publicity of the organized medical men.

As increased office space is required for the publication of the JOURNAL and greater efficiency and saving of time could be accomplished by centralizing the various office units now separated and also to facilitate travel the Committee recommends that the Council be empowered subject to its discretion to obtain suitable offices.

We wish to especially commend the work done by the Secretary on Public Health Malpractice Insurance, Preparations for the Annual Meeting JOURNAL Publication Medical Publicity the Medical Care Survey Medical Relief and Medical Expense Indemnity Insurance.

The Committee is mindful of the vast amount of work accomplished by these various and multitudinous duties.

We note the assistance and cooperation of the officers and committee members. This unity of interest augurs for the efficiency of the organization as a whole.

The Reference Committee notes with satisfaction and appreciation the work of Miss Dougherty for her supervision of the office and her unflinching assistance to the General Manager and also of the clerical force for maintaining the tradition of the office even under the trying circumstances of overtime increased work, and crowded quarters.

The Committee wishes to add its approval and endorse the thanks expressed by the General Manager.

In conclusion, the Committee wishes to express its approval for the replete yet concise report as a whole.

I move the adoption of the report of the Reference Committee.

The motion was seconded.

DR. GEORGE W. KOSMAK I would like to amend that section of the report referring to the change of quarters and add the words there "subject to approval by the Board of Trustees." I think that is a very important amendment.

DR. VAN KLERCK I accept that amendment.

SPEAKER FLYNN It being accepted it becomes part of the report of the Reference Committee.

The motion was seconded and there being no discussion, it was put to a vote and was unanimously carried.

### 39 Report of the Reference Committee on Report of Board of Censors

DR. LOUIS A. VAN KLERCK, Nassau The House of Delegates in 1938 approved the Reports of the Board of Censors (April 1 1938) relative to the appeal by Doctor Donald R. Keller, of Westhampton Beach from a decision of the Suffolk County Medical Society excluding him from membership.

The Suffolk County Medical Society as instructed by the Board of Censors, again voted on the application of Dr. Donald R. Keller with the result that Dr. Keller was denied membership. Dr. Keller appealed from this decision excluding him from membership and the Board of Censors of the Medical Society of the State of New York

heard this appeal on February 9 1939. The Board of Censors after careful consideration and discussion of all records and grounds for appeal reached the conclusion by a vote by ballot of 6 to 1 (the President and Secretary not voting) that the judgment appealed from should be affirmed.

This decision was duly transmitted by the Secretary in writing to both appellant and respondent.

The Reference Committee approved the action and report of the Board of Censors and moves the adoption of the report.

I move the recommendation of the Reference Committee.

The motion was seconded and there being no discussion it was put to a vote and unanimously carried.

### 40. Report of Reference Committee on Reports of the District Branches

DR. LOUIS A. VAN KLERCK, Nassau The Reference Committee wishes to commend the Reports of the eight District Branches.

In our review of the reports of these eight District Branches your Reference Committee notes the high quality of the scientific programs and also the arrangements made for the comfort and entertainment of the members at these meetings. We feel however that the attendance especially in the larger urban communities, while improved is not commensurate with the effort expended. Within the limitations of the budget allowed the Reference Committee would recommend that wider publicity be given these District Branch meetings, stressing both their educational value and the opportunities offered for the membership to obtain closer contact with the activities and efforts of the organized profession as conducted by our State Society.

The Reference Committee recommends continued assistance and encouragement for the work and purpose of the District Branches.

We wish to note with appreciation the interest and attendance of the President and state officers at each of the Annual District Branch Meetings. This custom greatly adds to the interest of the meetings.

The Committee is gratified to note the complete and detailed report of each District Branch President.

I move the adoption of the report of the Reference Committee.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

DR. VAN KLERCK I move now for the adoption of the Report of the Committee as a whole, with the slight amendment which was suggested by Dr. Kosmak and accepted.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

### 41 Report of Reference Committee on New Business A on Council Forwarding Report of Action of Each Meeting to County Societies

#### Section 26

DR. GEORGE BAEHR, New York In regard to the resolution of Dr. Wood of the County of



Westchester, Reference Committee on New Business A recommends approval of the resolution introduced by Dr Wood, with certain changes in wording

The resolution, as approved by the Reference Committee on New Business A, reads as follows

"WHEREAS, it is desirable that the County Medical Societies be directly and currently informed of all actions and policies of the interim-governing body of the State Society, therefore be it

"Resolved that the House of Delegates hereby instructs the Council, or other interim-governing body, to forward a report of the actions taken at each meeting of the said governing body to the Secretary of each County Society—such report to be forwarded as soon as possible after each regular meeting and before the next succeeding meeting of the Council "

I so move

The motion was seconded

VICE-SPEAKER BAUER It has been moved and seconded that the report of the Reference Committee be adopted, carrying with it the amended resolution of Dr Wood Is there any discussion?

DR WILLIAM H ROSS I move to amend that to provide for publishing it in the JOURNAL It will save expense and will cost considerably less Those reports are quite voluminous

DR BAEHR This matter was discussed in the Reference Committee, and the Reference Committee decided against that action on the grounds that the report of the Council to the Secretary of each County Society would be sufficient It is merely a report of the actions taken It is not the minutes nor the complete transactions as to what transpired at the meetings of the Council

Secondly, it was felt that the publication of these actions taken, many of which are preliminary, in a state journal circulated very widely might give rise at times to misunderstandings, and it would be better to have them go directly to the Secretary of the County Societies It is merely a matter of mimeographing a report of the actions taken, and the Secretary of the State Society thought it was not too burdensome and could be accomplished

VICE-SPEAKER BAUER Was there a second to Dr Ross' amendment? There being no second, we come to the adoption of the Committee's Report Is there any further discussion? Your action on this report carries with it the amended resolution of Dr Wood

There being no further discussion, the motion was put to a vote, and was unanimously carried

#### 42 Report of Reference Committee on New Business A on Principles of Professional Conduct for New Licensees

##### Section 18

DR GEORGE BAEHR, *New York* The Reference Committee on New Business A recommends the approval of the resolution of Dr Francis Kimball, New York County, with certain changes in wording, which are acceptable to him

The resolution, as amended, reads as follows

"Resolved that the Secretary of the State

Board of Medical Examiners be requested to send to the Secretary of the Medical Society of the State of New York the name of each person to whom they issue a license to practice medicine in the State of New York, and be it further

"Resolved that the Secretary of the Medical Society of the State of New York be and is hereby instructed to send a copy of the Principles of Professional Conduct of the Medical Society of the State of New York to each person to whom a license is issued to practice medicine in the State of New York, together with a letter of explanation and advice to him to apply for membership in the County Medical Society in which he establishes legal residence and/or his principal office "

I move the adoption of the resolution as amended

DR HOMER J KNICKERBOCKER, *Ontario* I would like to offer an amendment, "and the date thereof" be inserted relative to the license

DR BAEHR That is acceptable

The motion was seconded

There being no discussion, the amendment was put to a vote, and was unanimously carried

VICE-SPEAKER BAUER Now we come to the amended Committee's report, which carries with it the approval of the resolution of Dr Kimball as amended by the Reference Committee

There being no discussion, the amendment was put to a vote, and was unanimously carried

#### 43 Report of Reference Committee on New Business A—Public Medicine Assembly Bill Int. 523

##### Section 23

DR BAEHR, *New York* Although some of the statements in the preamble to Dr Benjamin Davidson's resolution are true, other statements are not founded upon acceptable evidence, and the conclusions derived therefrom as recorded in the resolution are unwarranted and in fact contrary to the policy of the Medical Society of the State of New York as established after careful study of the problem of medical care. Assembly Bill Int. 523, print 535, known as the Goldstein bill, is poorly conceived and contrary to public policy

The Reference Committee on New Business A, therefore, recommends that the resolution of Dr Davidson be disapproved, and I so move

The motion was seconded

VICE-SPEAKER BAUER The motion is on the report of the Reference Committee carrying with it the loss of the resolution

There being no discussion, the motion was put to a vote, and was unanimously carried

#### 44 Report of Reference Committee on the Report of the President

DR ROBERT BRITAIN, *Delaware* The Report of the President, Dr William A Groat, is a sincere reflection of experience gained by faithful, scholarly, and untiring efforts in behalf of the Medical Society of the State of New York.

It calls attention to attainments that have resulted from the combination of our financial, legislative, and professional resources It emphasizes that our most important aim and duty is to continue the practice of medicine on its

highest scientific and moral standards. It conveys the impression of a most sympathetic understanding of human needs.

We commend it most heartily to the members of our Society.

I move the report of the Reference Committee.

The motion was seconded and as there was no discussion, it was put to a vote and was unanimously carried.

#### 45. Report of the Reference Committee on the Address of the President-Elect

##### Section 13 72

DR. ROBERT BRITTAIN *Delaware*. The President-Elect asks that each member carry his share of the burden of the Society. He recommends the close inspection and the economic distribution of funds, a thorough investigation of our expenditures to see where items may be, if possible reduced. He recommends the appointment of a committee by this House of Delegates to study these facts—this committee to report to the Council their findings, to investigate the cost of publication of JOURNAL, reduction of salaries and expenses where there seems to be an excess, continuance of a Workman's Compensation Committee. The President recommends the consideration and study of the licensure of alien physicians, active survey of physicians who are not members of their local medical societies to get them to become members. This Committee approves of these recommendations.

I move the report of the Committee.

The motion was seconded.

VICE-SPEAKER BAUER. The question is before you on the adoption of the Committee's report. Is there any discussion?

DR. GEORGE W. KOSMAK. I would like to propose an amendment to that portion of the report which refers to the appointment of a committee from the House of Delegates to study the various items of expenditure etc. It would seem to me Mr. Vice-Speaker—I see the Speaker has been rendered inactive for the moment—that this matter be turned over to the Board of Trustees who have in mind doing this very job. I think it is unnecessary to appoint another committee from the House of Delegates to take care of this matter. I therefore, would like to amend that portion of the report to substitute for a special committee from the House of Delegates the words the incoming Board of Trustees.

DR. GRANT C. MADILL. I second that motion.

VICE-SPEAKER BAUER. The amendment has been made and seconded to substitute the Board of Trustees for appointment of a committee by the House of Delegates. Is there any discussion on the amendment?

SECRETARY IRVING. Dr. Kosmak, I think is mistaken in thinking that the recommendation meant the appointment of a committee of the House of Delegates. All we appoint here are reference committees. Special committees of the Society are appointed by the President subject to the approval of the Council. I just wanted to correct what seemed an error in understanding.

VICE-SPEAKER BAUER. According to the bylaws, the Speaker of the House of Delegates only appoints the reference committees that

report at the session for which they are appointed any committees other than that must be appointed by the President with the consent of the Council.

DR. KOSMAK. That does not change my opinion in the least. I think that this function is one that should be turned over to the Board of Trustees. They are more familiar with the facts of the case. There is no need for the appointment of a special committee. This matter can very well be taken up and fully considered by the Board of Trustees.

VICE-SPEAKER BAUER. The question is still before you on the amendment. Is there any further discussion?

DR. BRITTAIN. Has there already been a committee appointed for this purpose?

VICE-SPEAKER BAUER. I think not. Is there any other discussion? If not are you ready for the question on the amendment? All those in favor of Dr. Kosmak's amendment say Aye those opposed No. The Ayes have it and the amendment is carried.

The question now is on the amended report of the Reference Committee. Is there any discussion on that? If not all those in favor of the adoption of the amended report say Aye those opposed No. The report is adopted (later recommended).

Are there any other reference committees ready to report?

DR. JAMES H. BORRELL. I would suggest on any further amendments that are offered from the floor the microphone be used.

ASSISTANT SECRETARY PODVIN. I do not believe half of the men heard that.

DR. ARTHUR S. DRISCOLL, *Richmond*. I know that I for one, did not hear it. I do not know what the purposes of that amendment were and the men all around me are in the same situation.

CHORUS. Yes! Yes! We did not hear it.

VICE-SPEAKER BAUER. The amendment was to substitute the Board of Trustees for the appointment of a special committee from anywhere else in the Society.

Are any other reference committees ready to report?

(There was no response.)

VICE-SPEAKER BAUER. I will declare a recess of ten minutes until other committees have their reports prepared.

##### After Recess

VICE-SPEAKER BAUER. The House will be in order.

Gentlemen, the Chair is informed that a very large percentage of the House did not understand on what they were voting before we recessed. The Chair would therefore be very glad to entertain a motion for reconsideration.

DR. SAMUEL J. KOPETZKY *New York*. I move that it be reconsidered.

The motion was seconded.

VICE-SPEAKER BAUER. It has been regularly moved and seconded that we reconsider the Report of the Reference Committee on the Report of the President-Elect. Is there any discussion?

DR. KOPETZKY. The only discussion is the fact we did not hear it.

VICE-SPEAKER BAUER. Hereafter anyone who gets the floor will be asked to come up and

use the microphone so there will be no excuse for everybody not hearing what has been said

Is there any discussion on the reconsideration? If not, all those in favor of reconsidering, will say "Aye", those opposed "No" The vote is carried The Report of the Reference Committee on the Report of the President-Elect is before you just as though nothing had been done

Dr Kosmak, will you come up and use the microphone and explain your amendment again?

DR GEORGE W KOSMAK Preliminary to that I believe you should have the motion read

DR JOHN J MASTERSON, *Kings* In order to have this properly discussed we should have the Chairman of the Reference Committee make his report again, as most of us did not hear it in the first place

VICE-SPEAKER BAUER The report was not understood either Will the Chairman of the Reference Committee come and reread his report?

DR BRITTAIN The President-Elect asks that each member carry his share of the burden of the Society He recommends the close inspection and the economic distribution of funds, a thorough investigation of our expenditures to see where items may be, if possible, reduced He recommends the appointment of a committee by this House of Delegates to study these facts—this committee to report to the Council their findings, to investigate the cost of the publication of JOURNAL, reduction of salaries and expenses where there seems to be an excess, continuance of a Workman's Compensation Committee The President recommends the consideration and study of the licensure of alien physicians, active survey of physicians who are not members of their local medical societies to get them to become members

This Committee approves of these recommendations

I move the report of the Committee

VICE-SPEAKER BAUER The point was made that the House can authorize the appointment of a committee, but any continuing committee must be appointed by the President, with the approval of the Council

Dr Kosmak, will you come up and give your amendment again?

DR GEORGE W KOSMAK Mr Vice-Speaker and Members of the House, my amendment referred specifically to that portion of the Reference Committee's report which dealt with the appointment of a special committee by the House of Delegates to study certain details of expenditures, and so on My amendment was based on the belief that the appointment of such a committee is unnecessary and, therefore, I amended that portion of the report to read that the matter be referred to the incoming Board of Trustees

By way of discussion I would like to say that this matter has already been taken up by the previous Board of Trustees and has been given considerable study A detailed examination of the expenditures of the last five years has been drawn up, and there seems to be no need for this House of Delegates to appoint another special committee We should endeavor to concentrate our work as much as possible in the hands of those who are already familiar with the situa-

tion and who can, therefore, render a much more satisfactory report than any group of new men that will have to go into the question again and present its report

Thank you!

VICE-SPEAKER BAUER Dr Kosmak has moved that an amendment be made to the Committee's report, and that the Board of Trustees be substituted for the special committee Dr Madill seconded that amendment The amendment is now before you for discussion.

PRESIDENT-ELECT TOWNSEND Mr Vice-Speaker, and Ladies and Gentlemen of the House of Delegates, my recommendation has been somewhat twisted in its interpretation In the first place I said nothing about this House of Delegates appointing a committee. I recommended that they authorize the appointment of a committee I assume this House has the judgment, and the wisdom, and the prudence not to disturb a presidential prerogative of naming the committee

In the previous sentence in my address to you I told you clearly that I believe in financial economy If I merit your confidence, then you must have some reasonable belief in my good judgment I certainly have no intention, if it comes to my hands, to appoint one gentleman from Buffalo and another from Plattsburg, and another from Watertown, and bring them down to New York City every ten days to two weeks with an expensive bill that will run you up to \$1,000 or more at the end of a year That is entirely out of my mind

My recommendation was that you give me authority to appoint a group of gentlemen, four or five men, of wisdom, of foresight, of vision, living in the fairly immediate neighborhood of our headquarters, where the expense of attending a meeting would be only ten to twenty five cents—and I do not think you would receive a bill for that carfare—and study, think, look at the checks, look at the vouchers, look at everything concerning money, jot it down, come back to the Council, and in a short succinct report say "Do you know this is a fact? Do you know that is a fact? Don't you feel, perhaps, this could be changed or that could be cut down?"

Naturally, the Trustees have given us \$3,000, or \$1,000, or whatever the sum was, but if they have given us \$3,000, and we turned them back \$2,600, that is a saving The Trustees should be grateful to us Their time is taken up on far, far greater matters than this matter of fact finding and recommending to the Council.

If you will stick to the recommendation, and leave that to work itself out, and give me a chance to exercise such judgment as I may have, I rather feel in my heart that you will be the recipient of a great deal of benefit from the saving, because the cost will be very little. I think complications, reduplications of committee work, and multiplicity of committees are just horrid It is utterly unnecessary, and for that reason I would be very cautious as to adding to the expense of the State Society a committee widely distributed geographically

That is my reason for opposing Dr Kosmak's amendment I leave it in your hands

DR. HOWARD FOX, *New York* Mr Speaker, Ladies and Gentlemen of the House, the Presi-

dent Elect has already explained the situation and makes it unnecessary for me to go into any explanation. I merely want to say at this moment that I think the least we can do is to show our confidence in the President Elect who has thought over this matter very carefully and accept what he has recommended. (Applause)

DR. KOSMAK May I have the floor for a minute? I think Dr Townsend entirely misunderstood my amendment. My amendment was based on the report of this Reference Committee, and unless I am greatly mistaken the Reference Committee recommended the appointment from the House of Delegates of a committee. I ask that the original motion of the Reference Committee be read.

SECRETARY IRVING The President Elect asks that each member carry his share of the burden of the Society. He recommends the close inspection and the economic distribution of funds a thorough investigation of our expenditures to see where items may be, if possible, reduced. He recommends the appointment of a committee by this House of Delegates to study these facts.

DR. ARTHUR S DRISCOLL I move that the entire matter be referred back to the Reference Committee so that they may bring in a clear recommendation.

The motion was seconded and as there was no discussion, it was put to a vote and unanimously carried.

VICE-SPEAKER BAUER It is so recommended.

46. Report of the Reference Committee on Report of the Council—Part I on Public Health and Education, and Supplementary Report

DR. WALTER D LUDLUM The first portion of this report is taken up with matters of procedure. These are approved by your Reference Committee.

#### *American Medical Association Special Session*

The next item is the report of the Council's action in regard to the special session of the American Medical Association on September 16-17 1938 and the report of the New York State Society's delegates back to the Council including in full, the recommendations, five in number adopted at that special session.

Your Reference Committee recommends that this Society adopt the recommendations made to and adopted by the American Medical Association on September 17 1938, as its expression of policy relative to these matters.

I so move.

The motion was seconded, and there being no discussion, it was put to a vote and unanimously carried.

DR. LUDLUM Your Committee further recommends your approval of the action of the Council in placing the Society on record as in full accord with the recommendations adopted by the Special Session of the House of Delegates of the American Medical Association of September 16-17 1938 and for the remainder of its action as reported to all the County Societies under date of November 20 1938.

If that needs explanation I would say that it is in reference to the same matter but, in the first place, we adopted as the policy of the State

Society those recommendations, and in this particular paragraph we approve the Council taking that action for us.

I move the adoption of the report.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

#### *Postgraduate Medical Education and Public Health Matters*

DR. LUDLUM Your Reference Committee observes the activity of the Committee on Postgraduate Medical Education and Public Health, urges that in our very proper efforts toward economy the activities of this committee be curtailed and recommends that you voice your approval by vote.

I so move.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

#### *Maternal Welfare*

DR. LUDLUM The Special Committee on Maternal Welfare offers three precise and detailed recommendations. Your Reference Committee recommends that you express your approval of the essence of these recommendations and instruct the Council to carry them out so far as may be possible.

Possibly in explanation I would refer you to that column in the report and call attention to the fact that there is much detail involved in that, all of which we cannot demand precisely, but we approve of the general proposition and want to carry it out as fully as may be.

I so move.

The motion was seconded and there being no discussion it was put to a vote and unanimously carried.

#### *Dietetics Institutes*

##### *Section 8*

DR. LUDLUM In regard to the supplementary report made this morning the first item refers to a Four Day Institute on Dietetics as presented by you and your Reference Committee. The idea is excellent and your Reference Committee recommends that it be approved and the Committee on Education be encouraged to carry it out if when and as it may be feasible. More particularly with regard to the registration fee we recommend that this be approved. If the Committee on Education recommends it in any individual case particularly with the object of 'assuring a regular attendance and assuring those who have registered that they will not be disturbed by a vacillating attendance.'

I move the recommendation.

The motion was seconded and there being no discussion it was put to a vote and unanimously carried.

#### *School Funds and School Health Work*

##### *Section 8*

DR. LUDLUM With regard to the next two subjects 'The Reallocation of School Funds' and 'The Recent Inquiry made by the State Board of Regents as pertains to school health work,' these matters are by no means settled at the present time and your Reference Committee recommends that the Committee on

Education be requested to conduct the study to the end of making precise recommendation

I so move

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried

### *Sulfanilamide*

#### *Section 8*

DR LUDLUM With reference to the fourth matter, namely, the "Restriction of the Sale of Sulfanilamide and its Derivatives as well as other drugs, to sale on Physicians' prescriptions only," your Reference Committee recommends that the Council Committee proceed so far as it may be able to make this effective, such restrictions either to be imposed by existing agencies or through new legislation

I move the recommendation

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried

DR. LUDLUM I move the adoption of the report *in toto*

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried

SPEAKER FLYNN I would like to speak to you of an omission here in the Report of the Reference Committee on the Council, Part V referring to the Principles of Professional Conduct That has not been taken up in the report of that committee, so I am referring that part of it back to that committee for further consideration and report, Dr Knickerbocker, Chairman

#### **47 Report of Reference Committee on New Business B on Appointment of Special Committee on Ophthalmological Public Relations**

#### *Section 20*

DR FREDERIC C CONWAY This is on the resolution introduced this morning, reading

*"Resolved* that the Medical Society of the State of New York be requested to appoint a special committee on Ophthalmological Public Relations at the next meeting of the House of Delegates"

Your Committee disapproves of the resolution

We feel that this resolution needs no action by your Reference Committee as the matter properly belongs to the Committee on Public Relations of the Council We would, however, suggest that it be given early consideration by that committee

I move the adoption of the report of the Reference Committee

The motion was seconded

SPEAKER FLYNN The motion is on the adoption of the report of the Reference Committee, which carries with it the disapproval of the resolution Is there any discussion?

DR PHILIP I NASH, *Kings* Can we have the reasons why it was disapproved?

DR CONWAY Your Reference Committee felt that the Society, and the House of Delegates particularly, is already overburdened with committees, and where we have committees that overlap it should be referred to the original committee that has the power to act in the matter

DR NASH That does not answer the ques-

tion I want the reason why it was disapproved

DR CONWAY It was disapproved because it properly belongs to the Committee on Public Relations of the Council

DR NASH You do not disapprove of it in principle though?

DR CONWAY No, we merely refer it back to the Council, and suggest that it be given early consideration by the Committee on Public Relations

DR NASH That was a misunderstanding on my part. I thought the Committee was disapproving of it on principle.

DR CONWAY No

DR W GUERNSEY FREY, JR, *Queens* I am speaking as a member of the Legislative Committee of the Eye Section of the Academy of Medicine, and as Chairman of the Legislative Committee of the New York Ophthalmological Society The reason that this resolution was introduced is that problems affecting ophthalmology and affecting the public health arise from time to time, resolutions are introduced in the State Legislature having to do with the practice of optometry and ophthalmic dispensing, and the attitude of the Medical Society of the State of New York is not always consistent in regard to these problems

We had the instance three years ago of having a bill to regulate the practice of dispensing opticians, which was endorsed by the ophthalmologists of the metropolitan area, and was opposed by the Legislative Committee of the State Society There seems to be no authoritative body to which reference can be made to get the opinion of ophthalmologists The Executive Officer and the members of the Legislative Committee of the State Society refer from time to time and write to and telegraph to individual ophthalmologists throughout the state for their opinion which they express as individuals This resolution was drawn up by a committee of ophthalmologists in the metropolitan area, after corresponding with ophthalmologists throughout the state It was introduced in abstract by the member from New York County The resolution provided for the designation of a committee from the Eye Section of the State Society, which committee could speak with much more authority than the individual members who may be consulted from time to time

DR JOSEPH S LAWRENCE I do not know whether I understood the nature of this explanation of the resolution nor just what it is that the resolution is intended to accomplish, but I did hear—if I heard correctly—that there was some inconsistency with regard to my action and the action of the Committee on Legislation

I want to challenge that immediately and refute it There was a difficulty last year with regard to the optometry bill A bill was introduced, and it was approved by a number of the County Societies, and no opposition was presented to the bill until it passed the Assembly and then the Senate When the Legislature was about to close, opposition arose on this bill The Legislative Committee considered it immediately, and the Legislative Committee in response to the increased number of oppositions that were brought in reversed its standing and opposed the bill Before the Governor signed the bill, I happened to be in a group where he was.

and he asked those of us present to confer with him in regard to this bill. He said that the bill had been approved by the Department of Education but just when it had come to his desk it was disapproved and the Medical Society had moved to disapprove of it, and he wanted to know whether he had understood correctly. I said yes. We were acting in response to what we call the fan mail, and we do it as nearly as we can, and as accurately as we can. It occasioned our taking two positions last year but we were against it before the Governor signed the bill, and the Governor vetoed it.

This year we attempted to forestall any such confusion so we asked the Chairman of the Section on Ophthalmology to name for us a certain number of ophthalmologists in the state that he thought would be in a position to advise us. After that the Committee on Legislation invited the optometrists to present their bill for a discussion prior to the hearing. All that was done with certain ophthalmologists invited to be present at the time. After that the bill was not introduced for quite a while the optometrists bill.

The opticians' bill was introduced and the Committee has always approved that but in the meantime there was misunderstanding. It was thought the optometrists bill has come in very early but it did not go in until two weeks ago. There was a public hearing on it, and it is now combined with the opticians' bill. The two bills are formed as one bill but your Committee on Legislation has been very careful with this bill as it has with any bill and it has consistently sought the advice of the ophthalmologists of the state concerning any legislation in this field.

I think that the Committee can have no objection whatever to the appointment of a committee of ophthalmologists to advise but I say again I am responding because there seemed to be an attack upon the sincerity and honesty of the Committee on Legislation and me.

I thank you.

**SPEAKER FLYNN** Is there any further discussion?

**DR. THOMAS P. FARMER** Mr Speaker and Members of the House of Delegates. I am speaking in support of the Reference Committee's report. Their recommendation I think should be worded that the resolution presented be not adopted in place of their saying that they are opposed to it because I think every body favors the idea which prompted bringing in this resolution to the House of Delegates. On the other hand the method is already set up for dealing with this problem that is, we have our own Committee on Public Relations and if we set up individual committees on public relations for each branch of medicine we will never accomplish anything in public relations. All the public relations of the State Society should be coordinated under one committee. There is nothing at all to prevent the ophthalmologists from consulting this Committee on Public Relations and expressing their ideas, where I am sure they will receive very sympathetic attention and consideration.

I might say that the speaker before Dr. Lawrence did not adequately describe conditions. I am not sure whether he knows that the Council

of the State Medical Society without any urging on the part of ophthalmologists but because of their own consideration of this problem adopted a motion that it be the sense of the Council of the State Medical Society that any legislation extending the privileges of optometrists in the field of ophthalmology be opposed as well as any legislation which restricted the ancillary services of opticians to ophthalmologists. I do not think you can find the least bit of fault with that policy. That is the policy guiding the State Medical Society at the present time until it is reversed by this House. (Applause)

**SPEAKER FLYNN** Before I put that question I will ask Dr. Conway to read that again in order that you may thoroughly understand it.

**DR. CONWAY** Do you mean the resolution?

**SPEAKER FLYNN** Yes.

**DR. CONWAY** Resolved that the Medical Society of the State of New York be requested to appoint a special committee on Ophthalmological Public Relations at the next meeting of the House of Delegates.

Your Reference Committee disapproves of the resolution.

**SPEAKER FLYNN** Would you like to make that amendment to the Reference Committee's report Dr. Farmer that you suggested?

**DR. FARMER** I would like to change Dr. Conway's phraseology and in place of saying they opposed it to say that the resolution be not adopted. It is all the same thing in the final analysis I suppose.

**DR. CONWAY** I accept that.

The amendment was seconded.

**DR. PHILIP I. NASH** Kings. I move that the original motion be adopted.

**SPEAKER FLYNN** The question will be on Dr. Farmer's amendment.

**DR. NASH** I am willing to withdraw my motion provided the recommendation of this committee about the disapproval be dropped from their report.

**SPEAKER FLYNN** That has been done in the wording that Dr. Farmer suggested. Dr. Farmer's amendment which was accepted by the Committee was that the resolution be not adopted instead of saying that the committee disapproved of it.

**DR. NASH** Very well I will withdraw my motion then.

**SPEAKER FLYNN** All those in favor of the motion that the resolution be not adopted, that is an acceptance of the Committee's report as changed by Dr. Farmer and as accepted by the Committee, calling for the nonadoption of the resolution for the reasons given, say Aye contrary. No. The motion is carried, and the resolution is not adopted.

**DR. JOHN J. MASTERSON** Kings. I think the reason for the small vote was that nobody knew what they were voting upon. I do not know whether we approved the original resolution or disapproved of it.

**SPEAKER FLYNN** We approved the Committee's report.

**DR. LUDLUM** To disapprove of the resolution.

**SPEAKER FLYNN** That was changed by the amendment which was accepted by the Committee, and it was put that the resolution be not

adopted, and not that the Committee disapproved of it

DR. LUDLUM The speaker in putting the motion said, "All those in favor of the resolution, say "Aye" and he got about two or three responses, and the same way when he called for the "Nay" vote he got two or three responses. The motion was intended to be approving the recommendation of the Reference Committee which disapproved the resolution.

SPEAKER FLYNN That wording was changed by Dr Farmer, and accepted by the Committee, so that it would read "that the resolution be not adopted"

DR. LUDLUM May we have the motion made on which we are to act then, the opposite motion?

DR. NASH I do not think Dr Ludlum heard me withdraw my motion, therefore, you are voting on the recommendation of the Reference Committee, with the changed phraseology, as has been stated

SPEAKER FLYNN Will you kindly read your recommendation with the changed phraseology?

DR CONWAY Your Committee recommends that this resolution be not adopted

SPEAKER FLYNN Now you are voting on that recommendation of the Committee that the resolution be not adopted. All those in favor of the recommendation of the Committee calling for the nonadoption of this resolution, say "Aye", those opposed, "Nay" The resolution is not adopted

#### 48 Report of Reference Committee on New Business B on School Health Work

##### Section 21

DR CONWAY This is on the resolution proposed by the Medical Society of the County of Westchester, reading

"WHEREAS, the medical profession should not only participate but assume leadership in determining the future of the school health program in New York State, and

"WHEREAS, the recent Inquiry of the State Board of Regents found that the present program is 'almost entirely uncorrelated with the educational program as a whole and unrelated to any broader community responsibilities,' and pointed out the need of important changes of policy, many of which involve the school physician and the medical profession in the community, and

"WHEREAS, there is an evident need for an immediate reconsideration of

1 the economic factors underlying the school medical service,

2 the educational qualifications of school physicians and the establishment of professional supervision of their work,

3 the professional status of the school physician in the school system and his relationship to his colleagues in the community,

4 the proper basis of remuneration for the school physician and the proper scope of his required services,

5 the desirable functions of the school physician in health education, therefore be it

"Resolved that the Medical Society of the State of New York appoint a special commis-

sion, representative of school physicians, private physicians, and experts in health education, and charge this commission with the duty of formulating recommendations for the House of Delegates looking toward a practical program in answer to the following question

"What changes are needed in law and in administrative practice to place the school health service upon a sound economic and professional basis, to equip the school physician for leadership in health education, to correlate the school health program with the educational program as a whole, and to correlate the school health inspection service with the official health agencies and the medical profession in the community?"

Your Committee disapproves of the resolution inasmuch as Dr Farmer's Committee already has the matter under advisement. Your Committee feels, however, that the matter is of extreme importance and suggests that it be given early consideration by that committee.

I so move

The motion was seconded

DR. ARTHUR F. HEYL, *Westchester* May I amend this motion, which amounts to a disapproval of this resolution and a recommendation that Dr Farmer's Committee from the Council consider this at its earliest convenience, so that the House of Delegates will empower Dr Farmer at his discretion to utilize representatives of school physicians, private physicians, and experts in health education to facilitate what is embodied in this original resolution.

The amendment was seconded

DR. WALTER D. LUDLUM, *Kings* I would like to second that amendment. I had a little discussion about this matter, and I have given it consideration. I think it is a big job for one committee in and of itself alone. With all the other duties that are imposed upon Dr Farmer's Committee I do not think that the Committee itself, without additional assistance, can adequately cover this matter.

SPEAKER FLYNN Is there any discussion on the amendment?

DR. FARMER May I suggest that in those last speeches the word "Dr Farmer" be eliminated and "Chairman of the Committee on Public Health" substituted?

DR. HEYL I will accept that amendment.

There being no further discussion, the amendment was put to a vote and was carried.

SPEAKER FLYNN Now we will have your action on the report of the Committee as amended

There being no discussion, the motion was put to a vote, and was carried unanimously

#### 49 Report of Reference Committee on New Business B on Race, Color, or Creed Restrictions on Physicians

##### Section 16

DR. FREDERIC C. CONWAY With the consent of Dr Peter M. Murray, who introduced this resolution, it was changed to read

"WHEREAS, a rapidly changing social order is demanding a reorientation of the attitudes and responsibilities of individuals and agencies engaged in providing for the medical care of the public,

'WHEREAS, the entire strength of all elements engaged in the practice of medicine should present a united front in facing and solving these problems in the interest of the public health

'WHEREAS, the Negro physician numbering more than 5 000 in the United States and about 350 in New York State bears the direct responsibility for the care of approximately 13 000 000 citizens whose collective health problems form one of the most challenging areas in the entire battle line against sickness and disease

'WHEREAS, these physicians have not only demonstrated individually and collectively their ethical and professional fitness to shoulder their just responsibilities but have shown a zeal and a devotion to the health problems of their people worthy of the best traditions of American Medicine

'WHEREAS, the best interests of the entire medical profession and indeed of the entire public demand that they receive identical opportunity for medical education for professional experience in hospital and clinic for participation in public health programs, public and private in short all of the rights, privileges and responsibilities inherent in regular membership in organized medicine,

'WHEREAS, the County Medical Society is the basic unit of the American Medical Association, membership in which is a prerequisite for membership in the American Medical Association

'WHEREAS, south of the Mason Dixon line Negro physicians are generally and systematically excluded from County Medical Society membership making membership in the American Medical Association and affiliation with organized medicine impossible,

'WHEREAS this exclusion along racial lines strikes at the fundamental rights of this large group of physicians and indirectly lowers the quality of medical care which they must deliver to an already underprivileged group whose health problems admittedly press more firmly for solution than those of any other racial group

'WHEREAS, these Negro physicians have time and again demonstrated their constancy and heroic devotion to the democratic form of government and all which that term implies and have strongly recorded their position toward the pending medico-economic issues as identical with that of organized medicine now therefore be it

*Resolved* that the Medical Society of the State of New York, through its House of Delegates records as its considered opinion that any and all restrictions imposed on any American citizen (this is changed from minority group) solely on the basis of race or religion, is not only inimical to the cause of the public health with which we are so deeply concerned but dangerous to the entire body politic of our democratic form of government be it further

*Resolved* that the members of the New York State Medical Society, especially those in positions of key responsibility in educational charitable and public health enterprises such as medical schools hospitals, clinics etc be and

are hereby urged to consider seriously the removal of any' (any' for these')

restrictions as a matter not only of simple justice, but in the light of their inherent capacity to hamper and restrict the entire medical profession in rendering the best possible service to the public and further that they be urged to use their good offices and influence in removing any' (any for all')

restrictions based solely on race or religion, to the end that our proud boast of a truly democratic form of government a truly liberal and unselfish medical profession be less honored in the breach than in the observance be it further

*Resolved* that the House of Delegates of the Medical Society of the State of New York instruct its delegates to the House of Delegates of the American Medical Association to present at its next meeting and to use every honorable means to secure its passage the following resolution to wit

*Resolved* that the House of Delegates of the American Medical Association declare its belief that membership in the various constituent County Societies of the American Medical Association should not be denied to any person solely on the basis of race color or creed (creed was substituted for religion)

Your Committee approves this resolution as amended.

The motion was seconded, and as there was no discussion it was put to a vote and was unanimously adopted

## 50. Report of Reference Committee on New Business B on Woman Delegate to the American Medical Association

### Sections 24 91

DR. FREDERIC C CONWAY On the resolution introduced by Dr Emily D Barringer this was amended to read

'WHEREAS, it is a critical time in the history of American medicine when it is important that all physicians should unite in safeguarding the interests of the profession and

'WHEREAS, the American Medical Association especially needs at this time the active interest and loyal support of all its members and

'WHEREAS, there are about 8 000-9 000 women physicians in the United States, many of them eligible for membership in the American Medical Association, and many of them already members thereof and

'WHEREAS, these women physicians have in many states organized city associations, state associations, and there is also a national organization known as the American Medical Women's Association and the members thereof have found it difficult to build a powerful organization because of the relatively few women and lack of large funds and furthermore it is undesirable to segregate the women physicians interests from the interests of the profession as a whole and

'WHEREAS, the ratio of women physicians to men physicians is so small that the chance of representation in the House of Delegates of the various State Medical Societies is almost nil



and

"WHEREAS, we believe that the Women's Medical organizations have much to give in big-visioned ideas, vigorous work, and loyalty if their wishes can only be made articulate, therefore be it

*"Resolved* that the Women's Medical Association of New York City in Executive Session, respectfully request and urge the House of Delegates of the Medical Society of the State of New York to recommend to the House of Delegates of the American Medical Association that they grant a seat to a woman delegate in the House of Delegates "

We stopped the resolution there, and cut out a last clause reading "that this position shall be permanent and be filled each year by the President or President-Elect of the American Medical Women's Association "

Your Committee approves of the resolution, as amended, and suggests that it be presented to the House of Delegates of the American Medical Association for its consideration

The motion was seconded

SPEAKER FLYNN Is there any discussion?

DR. IRVING GRAY May I ask whether the Constitution of the American Medical Association permits of such a course being followed?

DR. CONWAY My understanding is that it does not It was merely presented so that it might be given consideration by that body

There being no further discussion, the motion was put to a vote, and was carried unanimously

SPEAKER FLYNN We will now vote on the report of the Committee as a whole, as amended

The motion was put to a vote, and was unanimously carried

DR. IRWIN E. SIRIS, *Kings* Will you entertain a resolution?

SPEAKER FLYNN Yes

## 51 Resolution on Report of Board of Trustees in Regard to Publication of DIRECTORY

*Sections 61, 63*

DR. SIRIS This is the resolution

WHEREAS, the Board of Trustees in its annual report recommended the omitting of the publication of the DIRECTORY for 1939, and,

WHEREAS, in view of the several hundred physicians entering practice in our state each year, and

WHEREAS, the DIRECTORY has additional value on account of the compensation ratings of our members and in view of the changes in these ratings from time to time, and

WHEREAS, in view of these facts the DIRECTORY after one year becomes of very little value, therefore be it

*Resolved* that the Board of Trustees be requested to publish the DIRECTORY for 1939 and each year thereafter

SPEAKER FLYNN I will refer that to the Committee on the Report of the Treasurer and Board of Trustees

DR. WILLIAM KLEIN, *Bronx* It has already been taken up by the Reference Committee on the Report of the Board of Trustees and discussed in detail

SPEAKER FLYNN We will have to wait for that report then The reference of this resolution will be postponed until the Reference Committee on the Report of the Board of Trustees has made their report, because I understand it has been taken up by them very fully On second thought, it will do no harm to refer it to them It is the same committee anyway

## 52 Resolution Regarding Principles of Professional Conduct Relating to Contract Practice

*Section 78*

DR. JOSEPH WRANA, *Queens* I have a resolution I would like to submit

WHEREAS, the Code of Ethics of the Medical Society of the State of New York has no section dealing with contract practice, and

WHEREAS, a definite interpretation of this phrase is extremely necessary so that all County Societies in the State of New York may interpret contract practice in the same manner, be it

*Resolved* that a new section shall be added to the Principles of Professional Conduct and shall be interpreted in such a manner as to prohibit members of respective County Societies from engaging in any form of contract practice which does not allow free choice of physician to the patient, except where a third party pays for all expenses incurred in the treatment of the patient It shall be interpreted so that members of Mutual Benefit Associations or employee associations who pay all or a portion of the cost of medical care to its members, shall have free choice of physician

SPEAKER FLYNN This resolution will be referred to the Committee on New Business A, Dr. George Baehr, Chairman

## 53 Resolution Regarding Legal Counsel Assistant on Legislation

*Section 74*

DR. M. E. MARSLAND, *Westchester* This resolution is presented by the Medical Society of the County of Westchester

WHEREAS, in the Supplementary Report of the Council's Committee on Legislation for 1938 it is stated "In the early part of the session, Dr. Lawrence and his secretary can do the work very comfortably, but as the session progresses and hearings are held, Dr. Lawrence is obliged to spend more time in the capital At the same time, toward the latter part of the session, bills are introduced more rapidly and immediate action is more imperative, so that the strain on the office becomes almost intolerable," and

WHEREAS, continuous active representation of the Society before the Legislature is of vital concern both to the public and to the profession, and

WHEREAS, representation before the Legislature frequently involves technical legal considerations requiring expert knowledge of law rather than of medicine, and acquaintance with legislative procedure, therefore be it

*Resolved* that the House of Delegates do instruct the Council of the Medical Society of the State of New York to retain full-time legal counsel to assist and supplement the Society's present representation before the Legislature

**SPEAKER FLYNN** This resolution of Dr. Marsland's will be referred to the Reference Committee on the Report of the Council—Part IV Dr. Charles A. Anderson Chairman

#### 54 Report of Reference Committee on New Business C on Milmoee Osteopathic Bill—Assembly Int. 1428

##### Section 25

**DR. FLOYD J. ATWELL** Your Committee has considered the resolution introduced by Dr. Irwin E. Siris, of Kings, and we found it advisable to make certain minor changes in the construction of the resolution which do not affect its intent so that it now reads as follows

"WHEREAS, osteopathy is a system of treating disease wherein drugs are not used or surgery with instruments performed, and

"WHEREAS there is a bill—Milmoee Assembly Introductory No. 1428—which has passed the Assembly and which would permit osteopathic physicians to use drugs antiseptics and biological products and perform minor surgical procedures and

"WHEREAS the bill is indefinite in its construction and we believe impossible of administration therefore be it

"Resolved that the House of Delegates of the Medical Society of the State of New York hereby express its concern for the public welfare and the standards of medical education—should this bill become a law be it further

"Resolved that this House of Delegates communicate its concern to the Committee on Education of the Senate and inform them of the dangers of permitting the use of drugs antiseptics and biological products and the performance of minor surgical procedures by unqualified or inexperienced men who have not had the educational requirements required by the Regents of the State of New York for those who prescribe drugs and perform minor surgery Be it further

Resolved that the Medical Society of the State of New York go on record as being unalterably opposed to this Osteopathic Bill be it further

Resolved that copies of this resolution be telegraphed to Roy M. Page Chairman Committee on Education and to Senator Joseph Hanley and John Dunnigan—Majority and Minority leaders respectively of the State Senate and that the telegrams be confirmed by letters by our State Secretary Dr. Irving

We recommend the adoption of this resolution as amended

I so move

The motion was seconded

**DR. JAMES F. ROONEY** I think this is a most important thing. We have been dealing with this question year after year for the last twenty five years. Much to-do was made at the Legislative hearings concerning the present qualifications of osteopaths that they have to pass the same examinations as the regular physician, that they have to follow the same course of study and that therefore they are just as well qualified as the regular physicians to do any thing within the field of medical service. As a

matter of fact gentlemen when this law was first passed it was signed by the present Chief Justice of the Supreme Court of the United States when he was Governor. There were licensed by fiat approximately 470 osteopaths who had if anything worse training than the present chiropractor. Since they have been required to take an examination for licensure to the best of my recollection there have been less than forty licensed by examination.

What this bill will do will be to admit the forty licensed by examination whose standards are not equal to those which we require and who have come in since the requirement for examination was made valid but we will license the approximately 418 still remaining who had an educational value of approximately four and one half to five months of our first year course of medical study.

One thing further the moment we do this we open the doors again for the demand of the chiropractors to do the same thing. Then we have the naturopaths and we have any number of quacks who will have a precedent to demand licensure upon the same basis as those which the Legislature may now grant to the osteopath.

I feel that not alone should we approve of this resolution but that if this thing does pass the Senate—and I am inclined to believe it will pass the Senate because the support of this bill has not come from the osteopaths alone or their patients, but there have been a very large number of individuals in the state government who not only this past year but every year for the last twenty have favored doing it and many of those are in the Education Department—let us at least stand up and be men for the public good (Applause)

**DR. SAMUEL B. BURK** New York Mr Chairman and Gentlemen I have just listened with interest to the discussion of Dr. Rooney and I would like to know the attitude of the Board of Regents on this subject if we are able to get some word from them.

**SPEAKER FLYNN** Would you like to talk to that Dr. Madill?

**DR. GRANT C. MADILL** Mr Speaker and Members of the House of Delegates the first year that I became a member of the Board of Regents a bill similar to this was introduced. At that time there was a thorough discussion of the bill and further than that a thorough discussion of the whole subject of permitting the osteopaths to carry on any practice except that specified by the law under which they were licensed.

As a result of that discussion—and it has been continued since—the Regents approved of the policy of having one standard for all those who made application for the practice of the medical arts in this state. We felt that they should have the same premedical education that they should have the license when they had acquired sufficient knowledge to increase their practice.

There are now in this state practicing osteopathy between 400 to 500. There are 24,000 registered physicians in the State of New York. This bill has one objection which is probably the most important objection and that is in the matter of the definition of minor surgery. It is true that the Regents and many lay people feel that

inasmuch as this group of practitioners are required to take exactly the same examinations as the graduates of our regular registered medical schools in this state, they are entitled to some consideration, as they must know something about surgery.

In this bill minor surgery is mentioned, and I agree that it is impossible to definitely say what minor surgery is.

The first thing that the Regents did in the way of arriving at some definite standard for the education of those wishing to practice the medical arts of this state was to pass a rule that the osteopaths should take the same premedical course and training that the regular medical students took. That was passed, and that is now a law. We had an idea that that would perhaps stop this short cut of those who wished to practice medicine by shortening the period of time. This was rather a blow to some of the schools of osteopathy, and one of those schools, the one in Philadelphia, accepted the situation, and has complied with the rules that have been adopted by the Education Department of the State.

This matter of doing surgery, and the amount of training they have had, and their knowledge of drugs are important.

I think so far as the surgery is concerned, about the same rules and the same conscience that controls the surgery of the recent graduate in medicine in the regular schools applies to the osteopath. Those who graduate in medicine in our regular registered schools are privileged to practice anything from ophthalmology to proctology. Whether they will do surgery without an internship, without experience, or without surgical judgment, depends upon the conscience of the man. The same applies to the osteopath, and I might say that I have had, and the Regents have had, many letters from the older school of osteopaths who are most positively opposed to any expansion of the privileges of this school.

The history of medicine, so far as its being retroactive is concerned, is pretty definitely in favor of granting a privilege to those who have already rights in the matter of the practice of the profession. When I graduated in medicine, all that was required after graduating and receiving a diploma from the medical school was to present this diploma to the county clerk and register. There was plenty of opposition to that. There were many who objected that a waiver was established, and those who had been in the practice of medicine for a certain length of time were not deprived of rights which they had. Then the next move that was made in law legalizing and qualifying men to practice medicine was the examination, the establishment of a state board of examiners, and those who had been in practice for a certain length of time came under the waiver. They could not be deprived of their rights because of any new law that had passed requiring them to take examinations, and so it has gone on down. All of these improvements have come from within the medical profession, the matter of elevating the medical profession.

I think that the school of osteopathy is anxious to improve its standards and to merge itself into the regular school for the practice of medicine.

We had exactly the same problem to deal with in connection with Hahnemannism, when the homeopaths came in. They have gradually disappeared and now no one thinks of any difference in the status of a graduate of a homeopathic college and one from a regular recognized school of medicine.

It seems to me that if we will give and take, be patient just a little, by a process of evolution we can now soon reach a standard so that every one who wishes to practice medicine will comply with the same standards.

We had no hesitation in disposing of the chiropractic bill when it came before us for our opinion. All we are asked to do as a Board of Regents is to give our opinion as to this bill or that bill, and we had no hesitation whatever in pointing out the fantasy of the system of chiropractic, and that is ended—I feel that that is ended.

These gentlemen who are practicing this school that we are opposing is one that has made its position pretty clear. They are represented in the Board of Examiners. I talked with one of the Medical Board of Examiners today about the papers that he reviewed, the examination papers. He said that he did not know who was an osteopathic student or graduate or who was a regular medical school graduate, and so it is with all the examinations that come before this board.

I think that inasmuch as these men, this small band—there are only a few of them that I think will indulge in the practice of surgery, as a matter of fact we have to have a good deal of faith in some of our recent graduates in medicine who have no experience when they are turned out to practice anything, including surgery—they are represented on the Board of Examiners, they are represented on the Grievance Committee, and I may say for the ethics of these men that not a single man has been brought before the Grievance Committee for consideration of any infraction of the law that limits their practice. On the other hand, we have a band of outlaws practicing medicine, and we cannot stop them. We cannot convict them, and they can practice almost anything and when they are brought for trial before a jury they are acquitted. There have been one or two cases that have been convicted in the Court of Special Sessions in New York City, but in the most flagrant violations of the law in the practice of medicine when they have come before the juries they have been acquitted. These men could do the same thing. An osteopath could amputate a toe and nothing would be done about it. Suppose he amputated a toe, and he is brought before the Committee, and suppose he is then brought before a jury, what chance would there be of convicting him?

These men I am convinced are anxious to elevate their standard. I think they have complied with the rules and regulations inasmuch as they have not violated the law that we have been able to ascertain. They have strictly complied with the law, and I am in favor of reaching a point in the practice of medicine in this state so that they will all comply and come in through the practice of medicine in this great profession just under one standard.

SPEAKER FLYNN Is there any further discussion?

DR. RICHARD H. SHERRWOOD *Niagara* With the fullest respect to the person and sentiments of our last speaker I would like to recite the experience we had in Niagara County with legislators heretofore sympathetic with medicine. We were much astonished to hear from our Legislative Committee at the last moment the day before the bill was passed and referred to the Committee on Education of the Senate I believe, that one of them, an attorney, was in favor of licensing the osteopaths. Eleven of us called him in a period of two or three hours during a Sunday afternoon when he was trying to digest his Sunday dinner and perhaps not in the best shape to cope with us. We thought we had rather the best of the argument. However he voted the other way.

He raised the point, which I think the resolution makes vulnerable, and that is that the osteopaths have fulfilled the educational requirements that the doctors fulfill but he was unable to refute, even though he was a lawyer my contention that the osteopaths were in sincere in that they privately repudiate to the public that for which they request public license by the Department of Education of the state.

I called to his attention as an illustration a schoolmate of mine who prior to 1910 as a hobby used to take examinations in different subjects, and he accumulated twice as many points as were necessary to graduate from high school. He merely boned up on the subject and went in and took the examinations and passed them. I cited that as an illustration of how easy it is for people of modest intellectual attainments to pass our examinations. We have had enough such in our own profession. We have found out after they were licensed of their apparently insufficient ability to practice medicine but their sufficient ability to pass examinations.

I think we should broaden the base of our objection to this bill. It is timely. It is before this committee, as I understand it. We should emphasize the fact of their insincerity in not believing the tenets of the various sciences upon which our practice rests. It seems certainly insincere to say the least that they become licensed to practice something in which they do not believe. I think, perhaps, if I made any point whatsoever with this attorney it was when I put my question whether he thought a man who did not believe in the law should be licensed to practice law because he could pass the examinations.

The second point is that it is not a recognized science and I think on those two bases rather than for the reason that they lack educational qualifications we may properly protest their license by the State Department of Education, which in effect would thereby be giving face to something which for years we have thought had no face.

I would like to suggest that this resolution be referred back to a committee for a rewording of the language upon which the House of Delegates may object to this law if it sees fit.

Thank you!

DR. ARTHUR S. DRISCOLL, *Richmond* I agree with Dr. Rooney. I think we lose sight of the fact that a smokescreen is being thrown around this whole thing. These men twenty-five or thirty years ago applied for a license in

the State of New York to do what? To practice osteopathy. Why? Because osteopathy was going to be the saviour of the world. They were going to manipulate and adjust people and cure everything. After their qualifications have been brought up to a certain point, now they come in and they want to practice medicine. Why even talk about that? Even if their qualifications were twice as high as those of a doctor, they should be kept in their field and that is to practice osteopathy and not medicine (Applause).

DR. JOHN J. BUETTNER *Onondaga* Mr. Speaker and Members of the House of Delegates I want to reiterate what Dr. Driscoll has said. When we consider that these men were licensed to practice osteopathy when we consider that there are only 400 of them in the state, and during the last twenty five years only forty more have been admitted and the fact that at this time they are admitting they were wrong in their original contentions and in order to cure people they must now resort to drugs or minor surgery I feel we have a big point there in opposing this bill. I do not think we ought to allow them to go ahead, irrespective of what their educational qualifications are. They are admitting that they were wrong, and I feel that if they had the conviction of what they started out with we would have had a greater number of osteopaths who would have applied for examination and for entrance into the medical field. Evidently the small number is due to the fact that they appreciate in order to meet demands and to cure people they must follow the science of medicine and as such they are going into medicine rather than into osteopathy. I feel that this resolution should prevail and that the Medical Society should go on record as opposing this bill.

SPEAKER FLYNN There is a motion to recommit made by Dr. Sherwood.

The motion was seconded.

SPEAKER FLYNN Is there any debate on the recommitment?

DR. JAMES F. ROONEY I see no reason why we should recommit this bill. I think it would be very unwise in any way with the Educational Committee of the Senate to use personal terms like insincerity. We all know that it is insincere, and I wish that I could take you back with me to the first hearing that they had before the Senate Education Committee before they were licensed by Governor Hughes, who signed the bill by the Legislature of that time. I just want to relate this instance because we are talking about educational requirements that they are meeting that they want to really be good boys, they want to join the real medical profession, and they want to raise themselves by their bootstraps. The Dean of the Osteopathic School in St. Louis appeared before this hearing to tell how osteopathy cured disease. He was asked a question, as to whether he believed in the germ theory of disease. He said That is a figment of the imagination. Germs are nothing but scavengers. I asked him the question as to whether he believed in the use of diphtheria antitoxin for a child with diphtheria. He said there was not any such disease as diphtheria that diphtheria was merely a foul thing coming into the throat as a result of disturbance of the

relationship between the seventh cervical vertebra and the first dorsal, and that serum was not alone unnecessary but was dangerous and poisonous, and that the reason childred died with diphtheria was because they were given serum

The Chairman of that Education Committee was old Senator Brackett, of Saratoga, one of the most brilliant minds that the Legislature has ever had. Brackett began to frown. Before that he was for them. He came down from the Lieutenant-Governor's desk, and as he came down the steps he said these words, "The damn fools have cut their own throat."

Now, gentlemen, the men who were licensed three years afterward are the same ones about whom Brackett made that statement. The point of fact is that the chiropractor exists today simply because the osteopaths raised their standards, so the chiropractors adopted parts of their doctrine and magnified them and gave a short, easy course of six to eight months, which was before what the osteopaths gave before the state began to register them.

I regret very much to differ with my good friend, Dr. Madill. Much as I regret it, I still differ with him. I regret to hear him say the words "lawless members of the medical profession" spoken in an assembly such as this. I know of no way by which lawless members of the medical profession cannot be reached and are not being reached. (Applause) I will say further that the number of lawless medical physicians in this state and in this union are infinitely lower than those of any other profession, with the exception of the clergy—and I am not so sure we will exclude those either. (Laughter) The mere fact that out of 480 osteopaths nobody has ever come up before the Medical Grievance Committee does not mean anything in the way of argument to me, as against 40 or 50 a year, or 60 or 100, out of 16,000 physicians.

There is one further thing, now that this subject is germane—we have got to do something about the Medical Grievance Committee. We have got to do something to find out what is being done in relation to their recommendations, but that is another topic that I hope I have an opportunity to speak to you about later.

This whole thing has arisen because these men want to do work for which they are not trained. When the argument is made that they have to pass the same examination, and that we have medical student graduates who perhaps are not completely fit to do major surgery, I say I will take my chances on being operated by the last graduate of a Class "A" medical school who has been properly taught, who has been watched throughout his whole course in his last two clinical years, who has had an opportunity to do some assistant work, at least coming in contact with surgical patients, as against an osteopath who can pass the examination but who has never been in a hospital where modern surgery is practiced. (Applause)

We are not talking alone about surgery. What about drugs? What about these potent drugs that have just been given to us in the last year and a half to two years? What about serum? What about allergy? What about medicine? What about diphtheria? What about all the rest of the infectious diseases? What about smallpox? They do not believe in

them. It is absolutely a violation of the tenets of their religion. (Laughter) One might just as well talk about licensing the clergy because these quack things are cults, they are not science.

I think Dr. Madill will grant you there is only one school in the United States, one osteopathic school today whose students are even admitted to examination in the State of New York.

There is this last thing that you should keep in mind: there were 480-odd osteopaths licensed by fiat of the Legislature with less than one and one-half years' training in punching backs, 40-odd licensed by examination with some kind of training gradually increasing—but only gradually increasing. Do you want to give them the power to prescribe potent remedies and to operate upon the public of the State of New York?

SPEAKER FLYNN: Discussion is on the recommitment.

DR. SAMUEL B. BURK, *New York*: Mr. Speaker and Ladies and Gentlemen, I have a lot of respect for the answer to my question as given by a member of the Board of Regents, but I want every man here to consider that from time immemorial we have not been worrying about what the doctors do or what they do not do except insofar as it affects the health and welfare of the community. That is our problem. Can we, as medical men, give approval to the acts of these men who are supposed to be able to do surgery, to do vaccines, to use antiseptics, to use anesthetics, and to experiment on the public, when we know that they are not so qualified, both from their training and from their beliefs? Gentlemen, please consider that phase of the matter.

It seems to me that we are all in accord with the ideas as propounded by Dr. Rooney and as propounded by some of the other speakers. What we want is action. When you speak to a legislator as to what is going on, he will tell you that he received a half dozen cards from the doctors and possibly several hundred, or it may even run to several thousand, from the other side. This bill is still before the Senate, and you still can do some real missionary work, if you will take it upon yourselves to carry out the suggestion that I have just recommended.

How few lawyers would agree that a notary public, irrespective of what his education is, can go into court and try a law suit? Is there any difference in the comparison? These men have not had the training, they have not had the experience, yet they are willing to experiment and learn on their patients.

DR. BENJAMIN JABLONS, *New York*: I should like to recite an experience that I had that lends added weight and point to Dr. Rooney's remarks. A number of years ago I was asked to see a patient as a result of an emergency call in the office of an osteopathic physician. After I had completed my mission, this osteopathic physician showed me with great pride a cage of copper wire and an instrument with gadgets which related to the Abrams' electronic diagnostic machine that some of you may recall. I was amazed when I was informed that there were at least ten osteopathic physicians in the City of New York who had these gadgets in

this type of cage. If anybody who had not been licensed to practice medicine, osteopathic or otherwise had attempted to diagnose disease by this type of apparatus the laws of the State of New York could have reached him but this illustrates what happens when you license people to practice even a cult.

**SPEAKER FLYNN** Discussion is on the recommendation.

**DR. RICHARD H. SHERWOOD** I rise to a point of information. My recollection is that I simply made a suggestion and not a motion to recommit. The point upon which I desire information for the House and myself is the language of the words of the objection which is going to be transmitted to the Legislature. If the last speaker or whoever introduced the resolution would read that language for our information I should appreciate it.

(Dr. Sherwood was handed a copy of the resolution.)

**DR. SHERWOOD** I will read that portion of the resolution to which I referred.

*Resolved that this House of Delegates communicate its concern to the Committee on Education of the Senate and inform them of the dangers of permitting the use of drugs anti-septics, and biological products and the performance of minor surgical procedures by unqualified or inexperienced men who have not had the educational requirements required by the Regents of the State of New York for those who prescribe drugs and perform minor surgery.*

I move you that this resolution be recommitted for changes or additions to the language in that paragraph just read.

**SPEAKER FLYNN** The debate is still on the recommendation.

**DR. WILLIAM M. PATTERSON** *New York* Why cannot what has just been said be written down and let us all sign it and send it to the Legislature right now?

**DR. RICHARD H. SHERWOOD** The reason I want this amplified is that the legislators in our district say that the educational requirements have been met so if this House again states that the educational requirements have not been met we will not be making any new point nor covering the whole of the argument. Our point is refuted by the statement of Dr. Madill that they have met the educational requirements, and it is for that reason that I have moved that the language be added to or changed to provide a broader base upon which this House of Delegates may rest its opposition to the enactment of the law at this time.

**DR. GRANT MADILL** My statement was that they had met the pre-educational requirements. That was the extent of it.

**SPEAKER FLYNN** The debate is on the question of the recommitment.

**DR. JAMES F. ROONEY** The fact is that there are only forty of them who have met the educational requirements because when this bill went into effect to license them by fiat there were 480-odd licensed without any educational requirements whatsoever.

**DR. JOHN J. MASTERSON** *Kings* The reason Kings County when they introduced this resolution did not go into all the reasons or arguments as to why the osteopaths should not

be licensed, was because we had some consideration for your time. We felt that if this bill were passed by the Senate and went before the Governor for signature, we would then have an opportunity to present our arguments *in toto*. Therefore I do not think that anything can be gained at this time by resubmitting the resolution as presented by Kings County and I hope our colleague from Niagara will withdraw his recommendation that it be recommitted because all the arguments that he has presented may be presented later on if we do not kill the bill in the Senate.

The question was called for and the motion was put to a vote and was defeated.

**SPEAKER FLYNN** The motion is lost and the motion now before the house is on the adoption of the report of the Reference Committee. Is there any discussion?

**DR. JAMES F. ROONEY** I dislike to take up the time of the House, but I think this is an extraordinarily important affair. This matter may come up for action tonight. It only passes the lower house by a very few votes.

**CHORUS** One.

**DR. ROONEY** One vote. It will probably pass the Senate unless we put our protest in now. That protest should be worded very definitely that the medical profession of the State of New York opposes this bill on the basis of the fact that it will license completely to practice medicine in all of its phases except perhaps major surgery—and as Dr. Madill has said he could not and I do not think anybody can define what minor surgery is—men, over 80 per cent of whom have had no prior training in any of the essential arts of medicine.

The question was called for and the motion was put to a vote and it was unanimously carried.

## 55 Report of Reference Committee on New Business C on Physicians' Home, Inc.

### Section 17

**DR. FLOYD J. ATWELL** Your Committee has considered the resolution introduced by the Council which reads as follows:

*WHEREAS the Physicians Home Inc. has formally asked the Medical Society of the State of New York to nominate a number of physicians for appointment to its Board of Directors and*

*WHEREAS, the Physicians Home was incorporated with an endowment by bequest for the following purposes, (a) to create and maintain in the State of New York a home for aged indigent physicians and their wives or widows and to give assistance, financial or otherwise to such physicians and their wives and widows and orphans and needy minor children of physicians and (b) to do all things necessary suitable and proper to accomplish and further the purposes described in (a) above, and particularly to receive and acquire by grant gift, purchase devise bequest or otherwise property of all kinds and to hold main-  
tain invest, accumulate, and dispose thereof or the income therefrom for said purposes all in the manner prescribed or permitted by applicable law and*

"WHEREAS, the Home is at present caring for five aged physicians who are without funds, and

"WHEREAS, nominations to its Board of Directors would in no way make the Medical Society of the State of New York responsible for the conduct of this work, financially or otherwise, and

"WHEREAS, the objectives of the Home are highly meritorious, therefore be it

"Resolved that the House of Delegates of the Medical Society of the State of New York accede to the request of the Physicians' Home, Incorporated, for nominations to its Board of Directors, and be it further

"Resolved that the House of Delegates instruct the Council to make nominations for the Board of Directors of the Physicians' Home, Incorporated, when sought "

We recommend the adoption of this resolution.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

#### 56 Report of Reference Committee C on New York State Library

##### Section 28

DR. FLOYD J ATWELL The only other matter I have is not a resolution, but a telegram

*[To be continued in the next issue]*

from Joseph Gavit to Dr Joseph S Lawrence, Hotel Syracuse, reading

"Please call Society's attention to fact that proposed 15 per cent cut in already insufficient appropriation for state library means drastic cut in service to physicians because of reduced staff and purchase fund Prompt protest to Senator Thompson would be appreciated here."

In view of our present lack of detailed information in regard to the budget, your Committee deems it inadvisable to take any action on this request at the present time

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

#### 57 Report of Reference Committee on Report of Council—Part V—Revision of the Principles of Professional Conduct

DR. HOMER J KNICKERBOCKER We recommend the Committee on the Revision of the Principles of Professional Conduct be continued, as requested

I so move.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

SPEAKER FLYNN We will now recess until 8 00 P M

The session recessed at 5 25 P M.

## NEW CANCER TREATMENT

A treatment of cancer which has been successful in causing 100 per cent disappearance of malignant tumors in mice and which gives promise of being successful in treating human cases in which the tumor can be reached from the surface, was reported to the National Academy of Sciences at the final scientific session of its annual meeting in Washington on April 25

The treatment was reported by Dr G Failla and Dr K. Sugiura, of Memorial Hospital, New York, who were introduced to the academy by Professor Harold C Urey, of Columbia University The paper, read by Dr Failla, created considerable discussion

The treatment consists of injecting distilled water into the tumor, plus x-ray treatments, which need be only half the dosage formerly given in treatments

The treatment thus far has been applied only to animals but these tests have been so successful that it probably will be only a brief time before the treatment can be extended to human cases All that Dr Failla would say was that "it is logical to expect that the results we have achieved

with animals can also be achieved in human cases "

In testing his theory Dr Failla used mice in which he transplanted a type of cancer tissue known as carcinoma 180, which is always fatal unless treated with x-rays or radium

When he injected water into the tumors, Dr Failla informed the academy members, the tumors became radiosensitive and their tissues were destroyed with half the dosage of x-rays ordinarily required

Several groups of mice were used in the tests In one group x-rays alone were applied to the cancers and in another the same amount of x-rays plus the injection of distilled water

When 500 roentgens were given alone the tumors regressed, or grew smaller, to the extent of 2 per cent, but in the group that received the water treatment in addition, the tumors regressed 30 per cent

A dose of 750 roentgens to the group receiving x-rays alone showed a 50 per cent regression, but in the group that received the water injections in addition, the tumors disappeared

# The Professional Club

## of the

### Medical and Public Health Building of the New York World's Fair

**P**HYSICIANS, public health workers, medical scientists, and other professionals visiting the New York World's Fair 1939, will find reserved for their exclusive use the Professional Club. Here members of the nation's professional health, medical, dental, and nursing associations have a place to meet their colleagues in quiet, congenial surroundings.

Unique to this or any other World's Fair, the club occupies an area of 5,000 square feet on the main floor of the Medical and Public Health Building, which is located on the Theme Plaza, its main entrance being directly opposite the Helicline leading around the Perisphere to the Trylon, where much of importance takes place daily.

The visitor will find awaiting him a comfortable lounge, attractively decorated and furnished, a bar and a snack bar, checking facilities, rest rooms, stenographic service, telephones, and other conveniences of a private club.

Membership in the club is limited to accredited members of the medical and public health and allied professions and to representatives of exhibit sponsors. Professional members pay no dues, but there is a small certification charge to cover the cost of validating credentials. Among the organizations whose membership cards entitle their owners to admittance to and use of the Club are

- American Dental Association
- American Dental Hygienists Association
- American Dietetic Association
- American Hospital Association
- American Medical Association
- American Medical Library Association
- American Nurses Association
- American Pharmaceutical Association
- American Public Health Association

- American Veterinary Medical Association
- Army and Navy Physicians, Surgeons, and Dentists
- Association of Women in Public Health
- Catholic Hospital Association
- National League of Nursing Education
- National Organization for Public Health Nursing
- New York Academy of Medicine
- Pan-American Medical Association, Inc.
- United States Department of Agriculture—Bureau of Animal Industry
- United States Public Health Service

**P**RODUCTS of manufacturers sponsoring scientific and educational exhibits in the Medical and Public Health Building are on display in showcases set artistically into the walls of the lounge. The club serves as a place where these and other sponsors of exhibits in the main exhibition halls may meet members of the medical and allied professions under pleasant circumstances.

The Medical and Public Health Exhibit, being both scientific and educational, comprises probably the largest single enterprise of its kind heretofore undertaken specifically for adult health education. The exhibit is in two sections. A vast Hall of Man, which sets forth in unique fashion essential information on human anatomy and physiology, is under the sponsorship of the American Museum of Health, with generous assistance from a number of philanthropic foundations and public spirited life insurance companies and commercial institutions.

The list of organizations whose participation in the Hall of Man entitles them to representation in the Professional Club includes



The American Museum of Health, Inc  
 The Oberlaender Trust  
 Carnegie Corporation of New York  
 Aetna Life Insurance Company  
 Connecticut General Life Insurance Company  
 The Connecticut Mutual Life Insurance Company  
 The Guardian Life Insurance Company of America  
 John Hancock Mutual Life Insurance Company  
 Metropolitan Life Insurance Company  
 New York Life Insurance Company  
 The Travelers Insurance Company

Adjoining the Hall of Man is the Hall of Medical Science and Public Health—an outstanding collection of exhibits on such subjects as tuberculosis, pneumonia, syphilis, maternity, and child health. One of its high spots is the famed Carrel-Lindbergh artificial heart. Each of these exhibits is sponsored by a separate organization, whose representatives are eligible to club membership. The complete list of sponsors of exhibits in this Hall includes

American Medical Association  
 American Museum of Health, Inc  
 American Public Health Association  
 American Social Hygiene Association  
 American Veterinary Medical Association  
 The Dental Society of the State of New York  
 Maternity Center Association  
 Medical Society of the County of Queens, Inc  
 National Committee for Mental Hygiene  
 New York City Cancer Committee  
 The New York Institute for the Education of the Blind  
 J B Pierce Foundation  
 Queensboro Tuberculosis and Health Association  
 Rockefeller Foundation  
 W A Baum and Company  
 The Bayer Company  
 Becton, Dickinson and Company  
 Cherry-Burrell Corporation

Ciba Pharmaceutical Products, Inc  
 Eli Lilly and Company  
 Lederle Laboratories, Inc  
 Mead Johnson and Company  
 Parke, Davis and Company  
 E R Squibb and Sons  
 West Disinfecting Company, Inc  
 Winthrop Chemical Company, Inc.

Local physicians, public health workers, and allied professionals will use the club to entertain out-of-town guests brought here by the many meetings of national and international groups to be held in New York during the Fair. Members of the International Congress of Microbiology meeting in September, 1939, to use one example, may turn to the club not only for information regarding the medical and public health resources in and about the city, but for guidance in seeking authoritative local sources of information on the latest developments in technical aspects of their specialized fields.

Management of the club is vested in a board of directors which includes officers of the county medical societies of the five boroughs constituting the City of New York and of adjacent Westchester and Nassau counties. It is a nonprofit membership organization, incorporated under the laws of New York State.

The officers of the club are Dr James R Reuling, Jr, president, Dr Edward R Cuniffe, vice-president, Dr Matthias Nicoll, vice-president, Dr B Wallace Hamilton, treasurer, and Mrs Wilhelmina Rayne Walsh, secretary.

The membership of the board of directors includes, in addition to the officers, Dr Alfred Hellman, chairman, Dr John Bauer, vice-chairman, Dr Earle Brown, Dr Joseph Eller, Mr Franklyn Fischer, Dr Harvey B Matthews, Dr Frederick Schwerd, Dr J Peter Hoguet, Dr Chas Gordon Heyd, and Dr Russell W Tench.

The club has its own private entrance, leading from the garden court of the Medical and Public Health Building into surroundings which combine an intensely modern atmosphere with the bizarre

Designed and executed by Miss Francine Baehr, mural painter and stage designer of New York, the rooms illustrate that decoration may be combined with utility. In the main lounge, to use one example, the continuous lighted row of display cases set into the wall is made an effective feature of the decorative scheme. Topping the sixteen foot wall next to the ceiling is an uninterrupted band of corrugated mirror. Color and the absence of corners give a feeling of space. The focal point of the room is an adjoining curved wall containing a mirror from floor to ceiling, winged by lighted glass blocks. One of the original features of this wall is the mural of medicomicroscopic derivation in a surreal mood. In the curved arc on either side of this wall are two large ottomans surrounding white palms, in which flood lights are hidden.

Entering the Chess Bar, the visitor finds himself on a huge chessboard of red and black. He may go either to the leopard-covered seats around the wall, where he is served on a chess-castle table or to a white chessman seat and sip his drink at the bar. He may not forget that this is a club for professions allied with medicine, for apothecary jar lamps

light the bar, and a mural showing animals taking their turn at vivisectioning men of research adorns the back bar.

The Algerian influence which pervades the cocktail lounge at the left of the Chess Bar is suggested by two large black pineapple plants and a rolling strip-screen at the entrance to this room. Here Miss Baehr has decorated lemon yellow walls with black tropical palms and imaginative forms to give a modern North African atmosphere. A black lacquered mirror at the far end of an adjoining alcove gives the impression of night. Two black lamps, of an original design of African grotesque figures, feature the lighting arrangement. A white floor serves to accentuate the furnishings.

The room one enters from the other side of the bar is in great contrast to the others, and yet ties up to the unique impression. The floor is also white but the furniture, created and built especially for this room is jade green. An original decorative design of artificial, brilliantly lacquered fruit runs the circumference of this room. This divides the wall coloring, which is silver up to five feet and black to the ceiling. Black lighted tables are thrown in striking relief by the white floor and chartreuse ceiling.

#### ARTIFICIAL FEVER OF VALUE IN TEN DISEASES

Although the treatment of more than fifty diseases by means of artificial fever has been tried its value has been proved in only about ten diseases. Dr. Frank H. Krusen and Dr. Earl C. Elkins, of Rochester, Minnesota, report in the *J.A.M.A.* for April 29.

Pointing out that fever therapy is probably of little or no value in the treatment of many diseases the authors add that in some it may even be hazardous.

Studies they explain seem to indicate that the chief usefulness of fever induced by physical means lies in the treatment of gonorrhea, both acute and chronic and its complications such as arthritis, prostatitis, ulcers, urethritis and others. It would appear that artificial fever may be of value in syphilis, particularly when combined with drug treatment. While artificial fever may be helpful in intractable bronchial asthma and in selected

cases of chronic infectious arthritis, chorea and undulant fever the clinical data are not sufficient to permit any final conclusions. Its value in about forty other diseases remains to be proved.

Continued study has emphasized that production of fever by physical means is strictly a hospital procedure, that it is essential that a well trained personnel be in complete charge that skilled nurse technicians administer the treatments, and that a physician be in constant attendance.

Patients to be treated by fever should be selected with as much care as those who are to undergo major surgical operations. The dangers of artificial fever such as hemorrhage and sudden death are extremely rare when the treatment is in the hands of a competent, well organized group.

# Across the Desk

## Bagging Beauty's Booty

**I**N JUST a few days now, on June 25, to be exact, a big change will come over the old corner drug store

New labels will adorn the beauty lotions and the old household remedies familiar since grandma's time. For on June 25 the new Food, Drug, and Cosmetic Law goes into force, except for some provisions postponed to January 1, and all drugs and cosmetics must display prominently the list of their ingredients and instructions for safe use or dosage.

All "new drugs" must have the approval of the Secretary of Agriculture before they can be sold to the general public, even on a physician's prescription. And reports from Washington say the new preparations are coming in at the rate of two a day. Hundreds are awaiting the official tests made to find if their claims are reliable and if they have any poisonous or deleterious effects in the dosages recommended.

In the 163rd year of the Republic we are at long last to try to stop grasping patent-medicine profiteers from infiltrating noxious mixtures into the systems of our people. Undoubtedly a wide-awake country

### Protect Our Hebes and Shebas

And we are going to do more than that, now that we are off to a good start. The millions of our fair sex who gaze with envy at the pulchritude of the movie stars and hopefully touch up their faces, lips, nails, and rippling tresses with this and that, advertised to transform them as if by magic into Shebas and Hebes, are to be protected from pestiferous preparations that eat the skin, blind the eyes, and ruin the health.

At this moment a goodly number of rats are running around in cages in the Washington laboratories of the Food and Drug Administration, dyed with weird combinations of colors. They are the "guinea pigs" of American feminine

beauty. Patches of their fur are shaved off and the dyes found in lipstick, rouge, and nail polish are applied, to find if there is any poisonous reaction.

Millions and perhaps billions in golden booty are rolling into the coffers of the cosmetic manufacturers from our daughters of Eve who flutter up longingly toward beauty, and clearly the least we can do is to see that their looks are not marred or ruined by their fine attempt to besprinkle America, like the Turk's paradise, with the hours of dreamland.

### It's Bewildering

A bewildering array of aids confronts my lady when she decides to be beautiful or bankrupt. She can buy scores of soaps, face creams, make-up materials, deodorants, powders, hair dyes, skin-tighteners, pore-cleansers, vitamin creams, skin peels, skin foods, and facial packs. Once "cold cream" was enough for a dozen uses—but not now. The masterminds of the cosmetic industry have seen to that. Now fair femininity must have tissue creams, cleansing creams, liquefying creams, bleaching creams, sun-tan creams, turtle-oil creams, vitamin creams, wrinkle creams, depilatory creams, skin foods, texture creams, massage creams, "youthifying" creams, and probably several more appearing while this page is going through the press.

True, most of them are harmless, being nothing in the world but vaseline, mineral oil, or wax, or a combination, with perfume, and perhaps boric acid or an astringent like zinc oxide. When milady pays \$25 for two ounces, she is paying for the advertising, the fancy box, the oriental rugs on the floor, the rent of the beauty parlor, the salary of the well-named "skin specialist," and the proprietor's vacation on the Riviera. The same thing can be bought, as theatrical cold cream, for from 75 cents to \$1.50 a pound.

All, however, are not so innocuous, as is

pointed out in an entertaining book called *Health, Hygiene, and Hokey*, by Dr W W Bauer, Director of the Bureau of Health Education of the A. M. A. Creams and pastes for removal of hair have to be powerful enough to dissolve it, and if not used with enough care they may remove the skin, too, or cause ugly discolorations. In the same class are skin tightenors, astringent creams, and wrinkle creams. They are supposed to make the wrinkles vanish, but "they may actually make two wrinkles grow where one grew before." Worst of all are the "skin peels," containing caustic chemicals that take off the outer layers of the skin, sometimes causing bad inflammations of the tender lower layers thus left bare.

Bleaching creams, too, may be harmless (and useless) or powerful (and dangerous). A freckle-remover that really removes freckles is likely to take the hide along with the freckles. The sensible thing to do is to go to a physician skilled in such work, and risk no regrets.

### Merchants of Illusion

Well, if the caustic pastes for hair removal are dangerous, then what method is safe? Only one, we are told by Dr Bauer. That method is electrolysis—the electric needle. It must be done by a skilled operator, and the process is tedious and costly, but he assures us that it is the only safe and permanent way.

Depilation by x-ray is permanent, but never justified, he says in italics, because the x-ray also makes permanent and unsightly changes in the skin and may cause cancers, although these effects may not appear for months or years. Unwanted hair, he recommends, may be removed from time to time harmlessly with a razor or rendered invisible by bleaching.

When in doubt about any cosmetic,

the best plan is to consult a doctor and avoid results that may be disastrous to beauty, instead of helpful. The advertisement is merely sales talk. A cosmetic manufacturer is reported to have said to a gathering of his business associates:

"Remember, we do not sell merchandise, we sell illusion."

### Too Much of a Good Thing

Again, an example of too much of a good thing is seen in the attempt to overwork the current craze for vitamins. Undoubtedly a splendid aid for those who do not get them already in their daily food, they are being pushed indiscriminately upon everybody with such lurid claims that Dr Bauer simmers them all down to 'wim, wigor, and witamins.' You are to rub vitamins into your skin in a vitamin cream, chew them in chewing gum, suck them in cough drops, and, next week, perhaps, smell them in so-and-so's cologne. Some beauticians urge you to massage the skin with vitamin 'F,' which is now identified as part of the vitamin B complex. So 'the only present function of F in the vitamin alphabet is to part from his money the person whose name starts with the same letter.'

Underneath it all is the wish for 'charm.' If the woman needs it in her social life, the man, too, needs it in his business, only he calls it "personality." It can't be rubbed on the skin or poured on the hair. It comes with abounding health, balanced nerves, a clear brain, the feeling of power and *joie de vivre* that flows from bodily and mental well-being. These are not to be had at the beauty parlor. They arise naturally when the bodily activities are operating normally and harmoniously.

And there is one man to consult about that. The family physician.

W S W

---

"My dear," said the loving wife, the doctor says I must have a change of climate.

"Well cheer up," replied her fond spouse, spring will soon be here. —Exchange

# Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and the interest to our readers.

## REVIEWED

**The International Medical Annual** A Year Book of Treatment and Practitioner's Index, Edited by H. Letheby Tidy, M D and A. Rendle Short, M D. Octavo of 615 pages, illustrated. Baltimore, William Wood and Company, 1938. Cloth, \$6 00.

Brief summaries of the best of recent advances in surgery, medicine, and the specialties by some of the most prominent men in England again make this annual volume well worth scrutinizing. Stanley Davidson has a good section on purpura. His careful studies, as well as Witts', tend to show that the much-publicized treatment of purpura with snake venom and parenteral ascorbic acid has not been substantiated. "Blood transfusion," he says, "still remains the sheet anchor of medical treatment in all the hemorrhagic diseases." A. G. Gibson briefly reviews Parkinson and Hoyle's outstanding contribution to the study of so-called "emphysema heart." This paper, which appeared in the *Quarterly Journal of Medicine*, should be read in the original by all interested in internal medicine. Tudor Edwards has great praise for the treatment of lung abscess advocated by Neuhof and Touroff.

ANDREW M. BABEY

**A Synopsis of Physiology** By A. Rendle Short, M D and C. L. G. Pratt, M D. Third edition. Duodecimo of 325 pages, illustrated. Baltimore, William Wood and Company, 1938. Cloth, \$3 50.

This is the third edition since 1927. In looking through the twenty-six chapters, it is noted that the authors have brought the material up to date. The inclusion of chapters on endocrine glands, metabolism, diet and growth, and on the brain, is sufficient proof that the latest advances in physiology have been incorporated.

MORRIS ANT

**The Harvey Lectures** Delivered under the auspices of The Harvey Society of New York. Series XXXIII. Octavo of 275 pages. Baltimore, The Williams & Wilkins Company, 1938. Cloth, \$4 00.

This group of lectures continues to maintain the customary high level of dissertations on the newer contributions to medicine by men who have themselves been actively engaged in making these contributions.

The lecture by Selig Hecht on "The Nature of the Visual Process" is concerned with the analysis of the physiologic properties of visual perception. The lecture by Einar Lundsgaard on "The Pasteur-Meyerhof Reaction in Muscle Metabolism" deals with the role of lactic acid formation in muscle contraction.

There is an important lecture by Cecil Drinker on "The Functional Significance of the Lymphatic System," in which he discusses the lymphatic circulation. Peters' lecture on "Transfers of Water and Solutes in the Body" represents a summary of much of his own work.

A lecture by Stanley on "The Isolation and Properties of Tobacco Mosaic and Other Virus Proteins" represents one of the most important fundamental contributions to medicine in the past few years. The author has succeeded in isolating and crystallizing the protein of tobacco mosaic virus and has demonstrated that, after establishing its purity by 15 recrystallizations, this substance still possesses the pathologic properties of virus and conforms to all the Koch postulates.

Harry Goldblatt's paper on "Experimental Hypertension Induced by Renal Ischemia" deals with a summary of his excellent work on the induction of hypertension by renal artery compression.

WILLIAM S. COLLENS

# NEW YORK STATE JOURNAL *of* MEDICINE

---

VOLUME 39

JUNE 15 1939

NUMBER 12

---

## *Editorial*

---

### Weak Foundation

The Administration's National Health Program and the Wagner National Health Bill draw their main support from the National Health Survey conducted by the United States Public Health Service. Whenever anyone questions the wisdom of governmental intervention in medical care on the unprecedented scale contemplated by the President and Senator Wagner, the latter point to the enormous amount of untreated illness supposed to have been disclosed by the National Health Survey. Does this survey really prove that a third of the nation is without necessary medical care? And were the methods and qualifications of its investigators such as to command unquestioning belief?

Let it be understood to start with that the National Health Survey presents the results not of standardized controlled medical investigation of the entire country but of a house-to-house canvass of 740,000 urban families and 36,000 rural families, representing less than 3,000,000 persons in all. The enumerators entrusted with the determination of chronic disease and physical impairment were lay workers taken from the relief rolls of the WPA. For their information they had to rely mainly on the replies to certain questions they were instructed to ask. The results of such a canvass can hardly be considered authoritative from the medical point of view.

Wholly apart from deliberate malingerers, many of the answers must be taken with a grain of salt. The survey covered a period of eighteen months and people were asked to recall the number and duration of illnesses during that period. The possibility of error under these circumstances is obviously great, yet there is nothing to indicate that the government took steps to ascertain the percentage of probable error in the returns.

Other factors impel one to question the representativeness of the information garnered. For one thing, certain conclusions based on information from strictly urban areas are represented as applying to the entire country. For another, there is no token that the sample group is rightfully comparable to the rest of the population on the basis of income, occupation, age, sex, and marital status.

Apart from factual accuracy, however, the results of the National Health Survey are open to question on the grounds of bias. Throughout the published reports there is a definite tendency to paint as black a picture of the nation's health as possible. The interpretation of mortality rates is often at variance with the views of the outstanding vital statisticians of the country.

Naturally drastic remedies seem more palatable to the general public when the situation is made to appear very grave. This is not the scientific approach, however, nor is it conducive to a strictly accurate, honest report.

### A Better Approach

A state health program that has taken months to formulate cannot be fully analyzed in one week. Nevertheless it is already apparent that the report of the Temporary State Health Commission, headed by Assemblyman Lee B. Mailler, differs in several important and beneficial respects from some of the underlying concepts of the National Health Program and the Wagner National Health Bill.

For one thing, the State Health Plan sponsored by the Mailler Commission recognizes that the medical profession, and more specifically the general practitioner, is the nucleus of most health work, whether public or private. To this end it urges expansion of the laboratory and hospital facilities available to the general practitioner and more opportunities for graduate medical education, particularly in the rural districts. It proposes that approved general hospitals reorient their role to give the family doctor "increased opportunity to treat cases that fall within his sphere of competence" and enable him to "make more effective use of modern therapeutic and diagnostic equipment."

On the important question of prepayment for medical care the stand of the Mailler Commission is liberal without recklessness. It urges "immediate revision of the insurance law to permit and encourage sound voluntary health insurance schemes." Recognizing that the medical profession must have strong reasons for its overwhelming opposition to compulsory insurance, it wisely defers this controversial issue for further study.

Many of our most important health problems are too complex to

be solved overnight. The Mailer Commission has had the courage and good sense to acknowledge this. Among the questions it recommends for further study, in addition to compulsory health insurance, are public provision for medical care, amendment of the Unemployment Insurance Law to provide sickness benefits, and the development of a school health program. In all these fields far more can be accomplished by far-reaching study and carefully controlled experimentation than by the hasty adoption of radical panaceas.

## My Doctor

In these days when so many derogatory remarks are being directed against the doctor acting as an "individual" in the maintenance of the physical and mental health of the public, it is a comforting privilege to read the homely contribution of Bradley<sup>1</sup> on answers to the common questions of parents whose children are suffering from convulsive disorders. This vague and dreaded syndrome may be of no serious significance but in many instances it may be the result of a condition which will be present throughout life. In either event, it is only the individual family physician who can succeed in maintaining the mental stability of the parents.

To such questions as "Has my child epilepsy? Will my child outgrow his fits? Is this condition inherited? Will it harm other children to see my child having a fit?"—no casually interested panel doctor, government social worker, or compulsory health insurance administrator can give answers that will be reassuring to the mother and father. Even in the scientific investigation of convulsive disorders, the cut and dried routine must always be carried out in a hopeful spirit that is impossible under a regimented form of medical practice, which, because of the limitations imposed upon it, does not allow for the treating of the child patient *and his parents and close relatives* who, if not properly approached psychologically, will eventually suffer from the strain of mental stress and anguish.

Our proponents of regimented medicine have unfortunately disregarded "the art of medicine." They view medicine only in the light of its scientific accomplishments—its mastery of the epidemic diseases, its exalted advances in surgery. But the *individual* case of diphtheria, the *individual* case of a ruptured appendix, constitutes an *individual* problem for the patient *and his kin* which any form of regimented medicine does not take into account. And psychiatrists have proved that the establishment of a healthy mental status is extremely important in attaining a cure.

<sup>1</sup> Bradley C. Rhode Island Med. J. 31: 135 (1938)



## Current Comment

"We are so violently opposed to it that we shall *strangle* the first person who proposes it—whatever his age or civil status! No profession can fight death with one hand and summon it with the other. With this attitude there can be no compromise! Let there be no doubt about *that* in anyone's mind!"—The *Westchester Medical Bulletin* recently, on the subject of euthanasia

. . .

"Medicine has an ancient and honorable tradition. Long experience has taught us that there are some things we may accept as certainties. It has taught us that altruism is a virtue. It has taught us also that improvement of one's professional capacity by painstaking study and research, research perhaps for a few and study for the great majority of us, is beyond peradventure in the interests of patients as well as ourselves. Whether medicine can be practiced more satisfactorily under state subsidy and control is a much mooted question. Many feel that it cannot. They feel that change should be gradual and evolutionary rather than revolutionary. To them there is no greater menace than those who come forward with doctrinaire proposals for the solution of economic, social, or medical problems"—We have quoted the above from an editorial in the *Journal* of the Michigan State Medical Society

. . .

"One scarcely needs to point out that if the Society were interested primarily in creating work for doctors, the best thing it could do would be to 'pooh-pooh' the idea of health examinations and preventive services!

"But silly and unjust as this implication of self-interest is in itself, it is a symptom of a far graver disorder in the body politic—an endemic disease that we may call *paternalitis viridans*. For those who impugn the motives of organized medicine in its preventive programs

are the same who go about clamoring for state medicine for all. They are the lay workers who say to parents—"Why take your child to your own physician when you may just as well take him to the free clinic?" They are the lay workers who insist that the overburdened, underfinanced school medical services should carry the whole burden of child health work in the community.

"We discern, to our deep dismay, a rapidly increasing tendency on the part of parents to relegate to public agencies many responsibilities concerning their children, which by all the rules of time and reason belong solely to the parents themselves. We suppose that these parents would rise up and smite any long-haired visionary who proclaimed that all children are essentially the wards and property of the State, and that parents are entrusted with the rearing of their offspring only at the pleasure of the State! Yet we suggest that the attitude of many parents today with reference to the health supervision of their children is building a case for someone who in the not-too-distant future will proclaim the triumph of *paternalitis viridans*. We feel the tendency in that direction has gone quite far enough!"—Common sense and indignation in the May issue of the *Westchester Medical Bulletin*

. . .

"It has been known that physicians have been asked to call upon as many as one hundred cases in a day in government controlled medicine in one country.

"There are fourteen hundred and forty minutes in twenty-four hours. Allowing fifteen, which is too little in some instances, for each case, it makes a total of fifteen hundred minutes.

"Can the doctor give adequate treatment and an adequate examination under such working conditions? When can he eat and sleep?"—The *Bulletin* of the Bergen County Medical Society of New Jersey questions the situation

# CESAREAN SECTION

## Its Relation to Maternal Mortality

PAUL TITUS, M D , Pittsburgh, Pennsylvania

THE family physician who is a general practitioner may not be especially concerned with the actual performance of cesarean sections in his community, because this is a major surgical operation that he, himself, never undertakes. Nevertheless, the family physician is often the first to see and recognize many instances of obstetric complications, he then has the serious responsibility of deciding who is the most capable man to be called as consultant, and he is one of those who decide in consultation what shall be done in such emergencies. In other words, he is the guardian of the safety of many women in his community and as such he is vitally interested in everything that may have a bearing on this.

We have heard again and again about what has been spoken of as the abuse of cesarean section. This term has an unfortunately vague significance to many of us. We know it means that too many cesarean sections are being done. Because we no longer view the operation with alarm, however, we may be inclined to minimize its dangers, and to be somewhat indifferent to its 'abuse,' which is, literally, its employment when not absolutely required.

Improvement in surgical technic has lessened the risk from cesarean section. As a result of this it has been possible to broaden and increase the number of indications for its employment. This should have been and actually has been an obstetric gain. Contracted pelvis is no longer anything more than one of several excellent reasons for delivery by section whereas formerly it was the chief one of only a few reasons. Placenta praevia, premature separation of the placenta, pelvic tumors, cardiac or pul-

monary disease, and nephritis are some of these other indications for the operation with a definite lowering of the mortality rate for mothers with these complications from that of former days.

Thus obstetric gain has been almost entirely offset in many communities by the unfortunate and radically dangerous belief that this major surgical operation is now safe enough to be undertaken for the slightest of obstetric difficulties by anyone with any degree of surgical skill. Innumerable examples of this tendency can be cited.

In certain communities there have been operators who will permit women themselves to decide to be delivered by cesarean section solely in order to avoid labor pains. Recently, in and around Pittsburgh a series of births of twins by cesarean section was reported in the daily newspapers. The fact that each of the twins is usually smaller than a single baby and therefore, should be born even more readily than average by the natural route, did not deter these operators. One wonders how much they were influenced in their decisions by the thought of 'making the newspaper headlines.'

Not long ago there was a case recorded in which the obstetrician suspected twins, confirmed this by x ray, but found that one fetus appeared to be a monstrosity. The patient fell into labor and delivered herself of the normal twin, whereupon dystocia developed with the second on account of certain of its malformations. Instead of an embryotomy, and despite the local exposure and traumatism from the first delivery, the subsequent examinations, and the attempt at forceps delivery of the mass, this monstrosity was removed by abdominal section.

*Read by invitation at the Annual Meeting of the Medical Society of the State of New York  
New York City May 12 1938*

The patient died of sepsis on the fifth day after operation

Eclampsia was formerly considered an urgent indication for cesarean section. The death rate among eclamptics treated by section is much greater (41.5 per cent in the New Orleans Survey<sup>1</sup>) than in those treated conservatively. Section during an eclamptic attack is now viewed as being absolutely hazardous and ill-chosen.

In many instances, delayed labor, whether due to inertia or merely to slow dilatation of the cervix, as well as breech presentation in primiparas, have been considered reasons for cesarean section. The operation offers the surgeon an easy and spectacular way out of an obstetric difficulty, but for the patient it is not the safest way.

From what has been outlined above, it appears that unnecessary sections are being done on several accounts. First to contend with is the injudicious or inexperienced surgeon with little or no obstetric ability. In the face of a difficulty, cesarean section flashes instantly into his mind. Then there is the honest but misguided physician who believes genuinely that this is the only solution for his patient's difficulty. His obstetric ability is insufficient to tell him differently. Section for eclampsia, or for all instances of borderline contraction of the pelvis are examples of such situations. Another loose "indication" propounded for section has been that a patient who has had one difficult labor may be more easily delivered and simultaneously sterilized by laparotomy. Risk to the patient does not seem to be a deterrent factor in the minds of these operators, but how would they explain to the relatives when a patient died in order to be sterilized?

About a year ago, Lynch, of the University of California, established the fact that more than half of a series of deaths following cesarean section which he investigated occurred in women who had previously given birth to children through the normal birth passages. The responsi-

bility for this sort of a situation rests clearly on the medical attendants of these women.

In contrast to Lynch's report is the fact that many patients who have been delivered by cesarean section could have been delivered through the natural passages by version and extraction, or by forceps, or even spontaneously if the operator had had sufficient obstetric judgment to wait for full dilatation of the cervix. Every obstetrician has had the opportunity of delivering women naturally who had had a cesarean section in a previous pregnancy for the vaguest of reasons.

As stated above, the rising incidence of the performance of cesarean section with its attendant risks is outstripping its obstetric gain even when conservatively applied for new but valid indications. Fraser and Sparling<sup>2</sup> say that the performance of this operation should be limited in the bulk of cases to the following five reasons:

- 1 Pelvic contraction, or cephalopelvic disproportion
- 2 Neoplasms obstructing the birth canal
- 3 Hemorrhage (placenta praevia)
- 4 Toxemia
- 5 Repeat sections

These are broad indications, generally speaking, but are rigidly restricted ones when contrasted with some of the loose reasons for performing the operation alluded to above.

It requires keen obstetric judgment to decide conservatively when to operate, what type of operation to choose, and how to avoid infection before and during the operation, as well as hemorrhage following it. A well-trained obstetrician will strive to avoid rather than to choose delivery by cesarean section in the face of an obstetric emergency, and many times will be entirely successful where the untrained man would subject his patient to the greater risk of section. In a recent publication<sup>3</sup> I took occasion to say, with ample reason, "cesarean section is not an

operation for the general surgeon, for these reasons, but should be done as exclusively as local community conditions permit by men adequately trained in the specialty of obstetrics and gynecology. Any hospital with a high proportion of its total deliveries accomplished by cesarean section may be looked upon with grave suspicion. This indicates that the obstetric ability of its attending physicians who are responsible for this is below average."

Stander<sup>4</sup> reports that during twenty five years, ending in 1930, the incidence of cesarean section in 13,336 deliveries at the Johns Hopkins Hospital was 1.7 per cent, a figure which he terms slightly high due to their large percentage of colored patients with contracted pelvis. He says further that the rate for any maternity clinic should certainly not range above 4 per cent. In private practice it should be much lower, 1 per cent being a high rate for such patients. In my clinic the incidence has been 4.34 per cent, the reason being that this represents a small service with a high rate of consultation or abnormal admissions.

Lynch<sup>6</sup> has reported also on an unusually large series covering a considerable area of territory. In 524,117 births, 12,005 were delivered by cesarean section, an incidence of 2.5 per cent. The reason for approaching the operation with trepidation is to be found in a surgical mortality of 4.1 per cent among these 12,005 sections.

The mortality rate from this operation throughout the country generally is probably much more than this, being highest in those hospitals in which the ratio of cesarean section to natural deliveries is the greatest. This is due to the logical combination of poor obstetric judgment and poor surgical ability.

In this connection nothing has been said here regarding the high incidence of morbidity which accompanies cesarean section, as compared to delivery through the vagina. Subsequent invalidism is parallel to the morbidity rate and the compara-

tive results are not pleasant ones to review.

None of this is intended as a condemnation of delivery by cesarean section where it is clearly necessary. Under such circumstances the mother is unfortunate in being obliged by necessity to assume more of a risk than she would have had to do otherwise. I wish merely to emphasize that it must not be forgotten that there is a definite risk in every one of them.

The only criticism intended in this paper is against the unnecessary performance of cesarean section. Two questions arise when this operation is chosen for a patient by her medical attendants. The first is whether the decision was an honest one, and the second is whether they are competent to make the decision. Lynch says that this operative furor can be combated by creating the sentiment in the profession that only well-qualified obstetricians should be allowed to undertake major obstetric surgery.

I subscribe to this and would make an added suggestion. General practitioners attending pregnant women could easily arrange for all of their primiparous patients to have at least one examination late in pregnancy by a competent obstetrician in consultation with the attending physician. Many an impending catastrophe could be avoided by this simple rule, and arrangements could easily be made for the expense not to be prohibitive.

Such consultations would discover in advance when a section may be necessary because of pelvic contraction, for example, and the operation may then be an elective one. The maternal mortality from section is lowest when it is done as an elective operation before or soon after the beginning of labor.

Holland's<sup>8</sup> studies made some time ago from a series of 1,953 of the classical type of sections done by a number of different operators are illuminating on this particular point. He found a maternal mortality of 1.0 per cent in those done before labor, 1.8 per cent early in labor, 1.0 per cent late in labor, 1.4 per cent after induction of labor and 2.7

per cent after attempts at delivery by forceps. It is true that the findings from a survey now would probably be different as a result of the wider application of the low cervical type of section in the third and fourth groups, and this or the Porro operation in the last group. Nevertheless, the general situation remains about the same. Moreover, the very fact that obstetric judgment is required, not only as to when to operate but also what type of operation to perform, emphasizes the need for capable obstetric opinions on these matters in contrast to those of the casual operators.

Anticipation of possible trouble is of the greatest importance. Avoidance of meddling attempts at interference in obstetrics is of next greatest importance, especially if a cesarean section should prove to be necessary. To this end in our hospital there is a sign hanging in the obstetric scrub room with the following regulation:

*"All physicians attending obstetric patients in this Hospital shall be required to call a consultant either from the official obstetric staff of this Hospital, or that of another approved Hospital, in all instances of unduly prolonged labor or delayed delivery, and before they may undertake in this Hospital any obstetric operation of greater extent than low forceps."*

These consultations are made without fee unless the patient's own physician requests that a charge be made, and the rule has worked to the mutual advantage of the patients, their attending physician, and our own obstetric staff. By such an arrangement as this, the need for some cesarean sections has been recognized early and before irreparable damage has been done, while the unregulated performance of cesarean sections is entirely impossible.

Every general practitioner attending obstetric patients has a responsibility to safeguard these women when emergencies arise by calling as consultants those whom they know to be competent obstetricians. Every obstetric specialist has a responsibility that requires him to be conserva-

tive rather than radical in his judgment and practice when facing emergencies. All of us must remember that cesarean section is not a safe panacea or an easy way out of any obstetric difficulty and that it should not, under any circumstances, be undertaken without good and sufficient reasons, carefully evaluated by trained men with experienced obstetric judgment.

Cesarean section is a valuable procedure when it is limited to occasions where it is actually needed. It is being abused when it is used for insufficient reasons. In both instances it is more dangerous than a delivery by the natural passages. Its abuse is an important factor in our present high maternal mortality rate, and it is the duty of each one of us, for the benefit of our patients, to attempt to stop its abuse.

### Summary

1 The lessening of risk from cesarean section by improved surgical technic has been an obstetric gain because this improvement has broadened the valid indications for the operation. This gain has been offset, unfortunately, by a radical belief that cesarean section is now safe enough to be done by occasional operators for the slightest of obstetric difficulties.

2 The average general mortality rate following cesarean section is more than 4 per cent.

3 The incidence of birth by cesarean section to births by the natural passages should not be more than about 5 per cent.

4 In those hospitals where much higher ratios of delivery by cesarean section are found, obstetric judgment and conservatism are presumably deficient, and maternal mortality rates usually are proportionately higher than average.

5 Hospitals should not permit the performance of cesarean sections without a routine requirement of consultation with a competent obstetrician. The type of section to be chosen should be decided at this consultation, because one type of operation may be safer than others under certain circumstances.

6 Both the incidence and the danger of cesarean section could be diminished if general practitioners attending obstetric patients would arrange for their primiparous patients to have at least one consultation with a competent obstetrician late in pregnancy

### Bibliography

1. Miller H E: *Am. J. Obst. & Gynec.* 14 773 (1937)
2. Fraser, J. R., and Sparling D: *Surg., Gynec & Obst.* 66: 437 (1938)
3. Titus, Paul: *The Management of Obstetric Difficulties*, St. Louis 1938, C. V. Mosby Co. p. 627
4. Stander, H. J: *Obstetrics and Gynecology* edited by A. H. Curtis, Philadelphia 1933 W. B. Saunders Co. Vol. 2, p. 437
5. Lynch, F. W: *Surg., Gynec & Obst.* 66 423 (1938)
6. Holland E: *London Lancet* 2: 591 (1920)

### Discussion

Dr H J Stander, *New York City*—I wish to state that I am wholly in accord with the deductions and conclusions of Dr Titus' paper. Although the risk from cesarean section by unproved surgical technic has been definitely decreased the unfortunate outcome in many instances, has been a broadening of the indications with the result that this operation is often being performed in the face of clear contraindications. It is my belief that the knowledge and appreciation of the contraindications to cesarean section has not kept pace with the improvement in surgical technic. No one, not trained in practical obstetrics is competent to decide as to the advisability of a cesarean section operation. Certainly the general surgeon without hospital training in obstetrics, cannot appreciate the danger of actual or potential infection in a patient who has been in labor for ten hours or more. As I have stated elsewhere, it takes more knowledge to know and more courage to heed the contraindications to cesarean section than it does to perform the operation. Infection either present or potential, is ever the real danger signal in any contemplated cesarean section operation. The most ideal circumstances for the operation are those attendant to the elective procedure and to go a step further any justifiable decision as to an elective operation can be arrived at only by those giving to their patients proper and adequate prenatal care

It is indeed a commentary on present-day medicine when the maternal death rate from cesarean section is in the neighborhood of 10 per cent throughout this country. That thor-

ough study of maternal mortality published in 1933 by the New York Academy of Medicine, Committee on Public Health Relations showed clearly the reasons for this appalling death rate at least insofar as New York City was concerned. In many instances the operation was performed by general surgeons and it is revealing to note that during the year 1931 surgeons delivered 3 562 women in New York City with a maternal death rate of 9.9 per 1 000 live births. The committee writes 'The extremely high death rate for the surgeons may be due in part to the higher percentage of cesarean sections among their cases. Of the total fatal cases attended by surgeons 30 per cent had cesarean operations while only 23.6 per cent of the fatal cases attended by obstetricians had cesarean section. The rate even with this factor considered remains extremely high and must reflect to some extent the quality of the professional services of surgeons in this field. It is not unlikely that their training and attitude incline them to excessive use of instrumentation.'

One can hardly conceive how these operators could by the very nature of their training have an appreciation of the contraindications to a cesarean section. It is my opinion that perhaps one of the most pernicious practices in American obstetrics is the fact that general surgeons and others, without proper or even any obstetric training not only perform but actually decide as to the advisability of the cesarean operation. The study conducted by the New York Academy of Medicine revealed the astounding fact that cesarean section preceded almost a fifth of all maternal deaths. Evidently cesarean section is too often a procedure of last resort instead of being elective on a valid indication, such as marked degrees of contraction of the pelvis with cephalopelvic disproportion.

As one reads in the medical journals the numerous reports on cesarean section and studies the annual reports of various maternity clinics one is led to the inevitable conclusion that this operation is performed far too frequently and that the operators are too often not trained obstetricians with the result that section is invariably performed too late in labor. It cannot be too strongly recommended to the medical profession that we must all endeavor to bring about a sharp reduction in the number of cesarean sections performed, that the classic operation must be limited to the elective procedure, and lastly that adequate prenatal care is essential if we are to eliminate cesarean section as a measure of last resort after hours of labor and in presence of actual or potential infection

# VITAMINS IN NERVOUS HEALTH AND DISEASE

HERMAN WORTIS, M D , New York City

(From the Division of Psychiatry, Bellevue Hospital, New York City, and the Department of Psychiatry, New York University, College of Medicine)

**T**HE role of the vitamins in nervous health and disease has only recently reached the stage where it seems possible to bring a semblance of order out of apparent chaos. It will be the purpose of this paper to review the recent advances in this field and to relate some of our experiences at Bellevue Hospital.

## Vitamin A

Night blindness, often called "hemeralopia" or "nyctalopia," is now considered the commonest and earliest manifestation of avitaminosis A.<sup>1</sup> Largely through the work of Wald<sup>2</sup> it is now known that the ability to see under dim illumination is due to the visual purple of the retinal rod cells. He has further shown that light bleaches the visual purple and that its adequate regeneration is dependent upon an adequate supply of vitamin A or its precursor, carotene. In avitaminosis A regeneration of visual purple is therefore seriously delayed and vision in dim light greatly impaired. The relationship of lack of vitamin A to traffic accidents at night should therefore be further investigated.<sup>1,3</sup>

In nutritional (avitaminosis A) night blindness there are no gross organic or even ophthalmologic signs. The patient may, however, complain of pain, photophobia, lacrimation, and redness of the eyes,<sup>4</sup> but the condition may be entirely asymptomatic. In the treatment of these cases, Barborka<sup>5</sup> has used vitamin A with uniformly good results.

That vitamin A is essential to nervous economy also has been demonstrated by Mellanby<sup>6a-c</sup> and Zimmerman,<sup>6f</sup> who were able to observe, in animals fed a vitamin A deficient diet, disseminated demyelinating lesions, chiefly of the ascending tracts of the spinal cord. Fur-

thermore, if ergot was added to the diet, these lesions were made worse. This may explain why convulsive ergotism occurs only at times of famine. In addition, the nerve cells, chiefly those of the posterior root ganglia, Clarke's column, and the dentate nucleus, also show degenerative changes and sometimes disappear. In the peripheral nerves, the afferent fibers are frequently degenerated. Similar lesions are also found in the optic, trigeminal, and sciatic nerves. Mellanby further suggests that vitamin A deficiency may be the cause of multiple sclerosis and combined system disease. He stresses the value of early treatment—in the case of multiple sclerosis before neuroglial overgrowth has invaded the patches of degenerating nerve fibers, and in the case of combined system disease before irreversible changes in the neural elements have set in. It should, however, be noted that the almost miraculous remissions of multiple sclerosis are unlike those seen in any other deficiency syndrome, and I have seen relapses under diets perfectly adequate in vitamin A. Furthermore, the peripheral nerves that are the seat of marked pathologic changes in experimental avitaminosis A usually escape damage in multiple sclerosis.

As an index of vitamin A deficiency, blood lipid determinations, especially cholesterol, have been investigated. Rall and her co-workers<sup>7</sup> reported in dogs fed on a vitamin A deficient diet a rise in blood cholesterol simultaneous with the appearance of symptoms. Feeding of vitamin A or carotene caused a return to normal. Liang and Wacker<sup>8</sup> reported similar findings in rats. On the other hand, Collazo<sup>9</sup> reports a decrease in blood cholesterol in rats fed a vitamin A de-

ficient diet and states that the brain cholesterol was markedly increased by feeding large amounts of the vitamin. Gildea<sup>18</sup> in a careful study of human beings presenting deficiency syndromes, concluded that the serum lipid content (including cholesterol) was directly proportional to the nutritional state of the patient—falling in starvation, and vice versa. At the present time, therefore no definite conclusions can be drawn.

### Vitamin B

Nelson,<sup>11</sup> in an excellent review of the vitamin B factors, states that only the B<sub>1</sub> and the Pp factors have any definitely known application to human biochemistry or nutrition. The other factors of the B complex, however, are the subject of intensive study at present.

To Eijkman<sup>12</sup> goes the credit for being the first to make carefully controlled experiments in the study of a disease of dietary origin. In 1897 he concluded that beriberi resulted from the eating of decorticated rice and that the feeding of rice polishings caused prompt restoration of the disturbed functions.

The neuropathologic lesions resulting from vitamin B<sub>1</sub> deficiency have recently been reviewed by Davison and Stone.<sup>13</sup> Their experiments revealed vacuolation, liquefaction necrosis, and chromatolysis of the ganglion cells in the mesencephalon, metencephalon, and spinal cord, as well as disintegration of the myelin sheaths of the peripheral nerves of animals placed on deficient diets—but they emphasize that general inanition, which frequently follows in the wake of vitamin B<sub>1</sub> deficiency, may cause similar lesions.

Clinicians, however, have shown conclusively that peripheral neuritis may result from vitamin B<sub>1</sub> deficiency. Wechsler,<sup>14</sup> in a series of brilliant clinical studies, came to the conclusion that alcoholic neuritis, as well as pregnancy neuritis, was associated with a vitamin deficiency, and suggested the use of the term peripheral neuropathy to parallel myelopathy and encephalopathy. Since in inflammatory changes are not found in the peripheral nerves, his suggestion should

be accepted. Furthermore, Strauss<sup>15</sup> in 1935 gave a pint to a quart of blended whiskey daily to each of 10 alcohol addicts with peripheral neuropathy provided that they took a high vitamin diet and vitamin B<sub>1</sub> parenterally. On this regimen he observed that such patients recovered just as quickly as a control group who received no whiskey.

Jolliffe<sup>16</sup> and his co-workers in a series of very careful studies (using Cowgill's formula<sup>17</sup>) have shown that (1) every alcohol addict with polyneuritis had an estimated inadequate vitamin B<sub>1</sub> intake, (2) no alcohol addict with an estimated adequate vitamin B<sub>1</sub> intake had polyneuritis. They further demonstrated that vitamin B<sub>1</sub> in adequate dosage was therapeutically effective in the great majority of such cases and that in those cases where therapy failed, it was suggested that irreversible pathologic changes had set in. It was therefore concluded that alcohol had no chronic, toxic action on the peripheral nerves and that polyneuritis in the alcohol addict was due to vitamin B<sub>1</sub> deficiency. In this respect a recent pathologic study by Wechsler, Jervis, and Potts<sup>18</sup> is of interest. They showed that the nervous system, while resisting the action of alcohol as well as of B avitaminosis alone, is very susceptible to a combination of the two. It may therefore be said that while the importance of vitamin deficiency in alcoholic polyneuritis has definitely been established, the possible sensitizing effect of alcohol remains to be determined.

Furthermore, the polyneuritis of pregnancy has also been successfully treated with vitamin B<sub>1</sub>.<sup>14,19</sup> The condition is associated not only with increased metabolic demands on the part of the mother and fetus, but is frequently complicated by pernicious vomiting with resultant nutritional depletion. The importance of parenteral therapy in this condition is illustrated by a patient of mine, who showed practically no response to very high vitamin therapy by mouth, and remained blind, practically paralyzed, and bedridden for a period of four months. In addition, she showed a mental picture



resembling a Korsakoff psychosis. Intravenous therapy was then resorted to, and twenty-seven injections of 6.6 mg each of synthetic vitamin B<sub>1</sub> resulted in such complete recovery that within one month the patient had 20/20 vision in both eyes and is now able to carry on a perfectly normal existence. In fact, she recently wrote me that she had entered and won a roller skating derby. (It may be that I was too enthusiastic in feeling that her mental condition was cured!)

Vorhaus, Williams, and Waterman<sup>20</sup> have reported excellent clinical results in 100 cases of various types of neuritis treated with vitamin B<sub>1</sub>. It has also been suggested that vitamin B<sub>1</sub> is of value in multiple sclerosis,<sup>21</sup> trigeminal neuralgia,<sup>22</sup> polyneuritis due to metals,<sup>23</sup> neuritides of isolated nerves and of undetermined etiology,<sup>24</sup> chorea,<sup>25</sup> herpes zoster,<sup>26</sup> funicular spinal disease,<sup>27</sup> and even in tabetic root pains.<sup>28</sup> My own results with cases of multiple sclerosis, trigeminal neuralgia, and chorea have been entirely negative.

In cases of toxic neuritis, however, it would seem advisable to give vitamin B<sub>1</sub>, but specific therapy aimed to eradicate the focus of infection or metallic poison must accompany this. None of the clinical reports really prove the efficacy of vitamin B<sub>1</sub> therapy in these latter conditions and conclusions simply cannot be drawn at this time.

Cases of optic neuritis occurring in the course of severe nutritional deficiency do, however, show marked benefit when placed on B<sub>1</sub> therapy. Carroll<sup>29</sup> has reported such instances, and my own experiences confirm his results. Here again the success of the treatment frequently depends on the stage at which it is instituted—the temporo-macular bundles because of their phylogenetic youth are particularly susceptible to vitamin lack, and irreparable damage may result.

Selfridge,<sup>30</sup> in a study of patients with chronic progressive deafness, suggested that dietary factors were at play and was able to markedly help several with diets rich in vitamins—particularly the B com-

plex. It had been previously shown<sup>31</sup> that pigeons placed on a polished rice diet developed decreased vestibular chronaxia, which was promptly restored to normal when they were fed an adequate diet.

More recently it has been suggested that avitaminosis B<sub>1</sub> may be the cause of the Korsakoff psychosis.<sup>32 a, b, c</sup> In the light of some as yet unpublished work this hardly seems likely. In the first place, most of the *acute* alcoholic deliria, including the acute confabulatory Korsakoff type, clear up if given sufficient quantities of sugar, water, and salt. In fact Frank and I have obtained excellent results with several such cases fed on a B<sub>1</sub> deficient diet. Furthermore, the recent work of Jolliffe and his co-workers on the chronic Korsakoff psychosis shows that while vitamin B<sub>1</sub> seems to help, its exact value in this condition still remains to be determined.<sup>32 d</sup> In the chronic type it is, of course, possible that irreversible pathologic changes have already set in.

The intrathecal injection of vitamin B<sub>1</sub> has been stressed by Stern<sup>21</sup> who suggests that it may be more practical since a barrier may exist between the blood and spinal fluid. He further suggests that alkali and proteolytic enzymes in the intestine may destroy vitamin B<sub>1</sub>, and that even if the vitamin reached the central nervous system, excessive alkalinity might destroy it. He reports favorable results in a series of cases ranging from carcinoma with metastases (in which pain was relieved) to localized neuritides, pyramidal tract disease, multiple sclerosis, poliomyelitis and von Recklinghausen's disease.

He also states that "vitamin B<sub>1</sub> has a powerful rejuvenating action unknown to any other drug and is one of the most valuable therapeutic agents at our command." Such extravagant therapeutic claims are of course subject to further clinical confirmation. Moreover, Stern's theoretic deductions are often difficult to follow.

*The Biochemical Lesion in Vitamin B<sub>1</sub> Deficiency*—It is now generally accepted

that vitamin B<sub>1</sub> is a catalyst needed for the oxidative removal of the lower degradation products of carbohydrate metabolism. Since the respiratory quotient of the brain tissue is unity, indicating that the brain utilizes sugar as its essential foodstuff, the importance of such a finding is apparent. Work already completed<sup>22</sup> shows that vitamin B<sub>1</sub> is intimately connected with carbohydrate metabolism and more particularly with two very important catabolites of carbohydrate metabolism, lactic and pyruvic acids. It has in fact been demonstrated that in the avitaminotic brain, pyruvate is formed from lactate in the absence but not in the presence of vitamin B<sub>1</sub>. Indeed, addition of vitamin B<sub>1</sub> causes pyruvate to disappear. The connection between these findings in the brain and the more familiar anatomic lesions in the peripheral nerves and perhaps the spinal cord has not as yet been demonstrated, but the fact that vitamin B<sub>1</sub> can affect the chemical integrity of nervous tissue (brain) is important.

Further Platt and Lu<sup>24</sup> have been able to demonstrate an accumulation of pyruvate in the blood and spinal fluid of beriberi patients in the Orient. In a few cases methylglyoxal (another intermediary product of carbohydrate metabolism) was found. Geiger and Rosenberg<sup>25</sup> described the appearance of methylglyoxal in the urine and cerebrospinal fluid of infants suffering from vitamin B<sub>1</sub> deficiency.

### Vitamin B<sub>2</sub>

It has been suggested that a deficiency in more than one factor of the vitamin B complex is involved in pellagra and that pellagra as it is now recognized consists of two or more different conditions.<sup>26</sup> It is, however, known that human pellagra is frequently associated with changes in the central and peripheral nervous system.<sup>27</sup> The cerebral effects are irregularly distributed, the frontal lobes more particularly the large pyramidal cells showing the greater involvement and the spinal-cord lesions involving es-

entially the dorsal and lateral columns, resulting in the clinical syndrome of dorsolateral sclerosis. Orton and Bender<sup>28</sup> suggested that the cord lesions might be due to a superimposed virus infection or other changes. Tucker<sup>29</sup> also suggested that a neurotropic virus might be responsible. In addition there is frequently an associated demyelinating peripheral neuritis and involvements of the nerve roots, more particularly the posterior nerve roots. Zimmerman and his co-workers<sup>30</sup> have been able to reproduce essentially similar lesions in dogs fed on a vitamin B<sub>2</sub> deficient diet.

Furthermore the nervous system lesions in combined system disease accompanying pernicious anemia resemble pellagra and since both are frequently associated with achlorhydria, a possible connection is suggested.

The etiology of the nervous system lesions in human pellagra, however, is still not clear. Spies,<sup>31</sup> for example, has observed that the peripheral neuropathy in a case of human pellagra became more severe while the mucous membrane lesions were healing nicely under nicotinic acid therapy. On the other hand, I have observed in 2 similar cases that with heavy doses of vitamin B<sub>1</sub> the peripheral neuropathy cleared nicely, while the skin, mucous membrane and spinal-cord changes were not appreciably affected. Two possible explanations are offered: (1) the spinal cord lesions are irreversible, (2) the spinal-cord lesions have a different etiology from the peripheral neuropathy which is probably caused by avitaminosis B<sub>1</sub>.

The response of the encephalopathic phenomena seen in avitaminotic states to nicotinic acid is soon to be reported on by Jolliffe and his co-workers.

### Vitamin C

Vitamin C (cevitamic acid) is present in both blood and cerebrospinal fluid and is capable of passing from one to the other. It is present in the brain and spinal fluid only in its reduced form, whereas in the blood a portion of it occurs in the

reversibly oxidizable form. The subject of blood vitamin C and its urinary excretion has been recently reviewed in a series of papers by Wright and his co-workers.<sup>42</sup> We<sup>43</sup> have recently reported on the role of vitamin C in nervous economy, and our results may be summarized as follows:

1. It is present in relatively large amounts in the spinal fluid.

2. Tissue extraction work reveals that the adrenal, brain, and pars intermedia of the hypophysis contain large amounts of vitamin C. Since these organs are intimately connected with nervous metabolism, further investigation on the functional relationship of vitamin C to these tissues is indicated.

3. Scorbutic animals consistently showed marked hypertrophy of the adrenal gland. It has been further established that there is a very intimate relationship between vitamin C and the adequate functioning of the adrenal gland.

4. Although there are many reports in the literature of neurologic and mental changes accompanying scurvy,<sup>44</sup> no proof has been given that the neuropsychiatric sequelae are specifically the result of a deficiency of vitamin C in the diet. Davison<sup>45</sup> placed 7 guinea pigs on a scorbutic diet. Pathologically the peripheral nerves of these animals showed slight disintegration of myelin and on rare occasions destruction of the axis cylinders. In addition to this, the various nerve cells, especially the anterior horn cells, disclosed pathologic changes such as vacuolation, liquefaction, necrosis, swelling, and pyknosis. He noted, however, similar pathologic changes in guinea pigs that were totally starved and was therefore unwilling to attribute any of the changes noted to avitaminosis C. In contrast, Zimmerman<sup>46</sup> states that animals with advanced avitaminosis C have uniformly failed to show lesions of the central nervous system other than occasional petechiae.

5. Jungeblut<sup>47</sup> has shown that vitamin C has definite protective and therapeutic value in experimental poliomyelitis,

and Stern<sup>21</sup> recently suggested that the intrathecal injection of vitamin C in this connection might prove of value. These suggestions are interesting but need further clinical confirmation.

6. It is, moreover, interesting that as regards age, species, and tissue, vitamin C concentration parallels the rate of oxygen consumption, suggesting participation in oxidations. But this relationship breaks down in that the gray and white matter of the brain have equal vitamin C contents and quite different respiratory rates.<sup>48</sup> In addition, we have been able to show that the cortical gray matter of scorbutic guinea pigs, although showing a markedly reduced cevitic acid content, shows no decrease in oxygen consumption as compared to normal animals. The respiratory quotient also remains unity, indicating that such animals are still able to oxidize their usual foodstuff, namely dextrose.

7. Myers and McCormick<sup>49</sup> noted that their scorbutic guinea pigs became nervous and apprehensive. Our own guinea pigs acted in much the same fashion and responded to very slight noises by running wildly about the cage.

Many articles have recently appeared in the literature attempting to correlate certain clinical neuropsychiatric syndromes and vitamin C deficiency. Our own study on 103 alcoholics<sup>43a</sup> led to the following conclusion: Alcoholic conditions associated with neural or mental changes have subnormal vitamin C levels in the blood and spinal fluid, whereas those without neural or mental changes tend to have normal vitamin C levels in the blood and spinal fluid. That vitamin C is directly concerned in causing the totality of these changes is not at all clear and hardly seems likely. The findings do suggest, however, that there is a large nutritional factor in the production of nervous and mental changes in chronic alcoholics.

A high content of vitamin C in the cerebrospinal fluid has been reported in hypertension, a strikingly low one in

multiple sclerosis, and no change in stupor, sleep, and narcosis.<sup>50</sup> We have observed that febrile diseases decrease the vitamin C content of the spinal fluid, probably because of the resulting increased metabolism and need for this substance. Furthermore, Bersot<sup>51</sup> suggests that many neurotic manifestations are caused by hypovitaminosis and are relieved by the administration of vitamin C. Such a claim can only be based on an improper understanding of the mechanism of neuroses—our results are negative along these lines. He further points out the importance of vitamin C deficiency in many patients with catatonia, arteriosclerosis, and senility. In these latter cases we too have observed that vitamin C deficiency does frequently exist but here the feeding habits and absorptive mechanisms are at fault, and the injection of huge amounts of vitamin C does not alter the clinical picture unless there be a complicating scurvy. Monauni,<sup>52</sup> in a similar study of schizophrenic patients, found consistently low figures in mute, catatonic, and apathetic patients, whereas in paranoid or agitated patients normal and high figures were found. These latter results essentially parallel our own and suggest that the vitamin C findings are conditioned by the feeding habits and metabolic needs of the patient. Hirata and Suzuki<sup>53</sup> treated 10 cases of advanced muscular dystrophy with vitamin C, which in their opinion was superior to any other available therapy. Their chemical studies suggest that the effects of such therapy may be attributed to the direct action of vitamin C on the adynamic musculature. I have had no experiences with vitamin C in these conditions.

In summary it is suggested that vitamin C may play a role in nerve tissue metabolism, that this role is probably subordinate, and that the mechanism of its action is not as yet clear.

### Vitamin D

Vitamin D is intimately related to ergosterol and cholesterol. It is further

known that the human brain can synthesize or catabolize cholesterol. In addition, ergosterol is found in large amounts in the fetal brain but the amount falls rapidly after birth. The calcium of the brain falls to 25 to 35 per cent of its normal value in rickets.<sup>54</sup> The clinical correlation of these findings remains to be determined.

Infantile tetany shows a prompt response to vitamin D therapy. The mechanism of this latter phenomenon is not clear and is probably not entirely an effect on the calcium metabolism.

### Vitamin E

Evans and Burr<sup>55</sup> have shown in addition to the sterility effect, a peculiar paralysis in a large percentage of the suckling rats born from mothers deprived of vitamin E. Furthermore, this paralysis was prevented by feeding the mother large amounts of vitamin E throughout her lactation period.

The relationship of this peculiar paralysis to muscular dystrophy is now being investigated.<sup>56</sup>

### Summary

I have attempted to call attention to some facts pertinent to the role of the vitamins in nervous metabolism. Further investigations along these lines and the closely related field of biochemistry will undoubtedly yield much valuable information to the neuropsychiatrist.

### References

1. Jephers, H. L. *New England J Med* 216: 11 (1937).
2. Wald, J. G. *J Gen. Physiol* 20: 45 (1936).
3. Edmund C. and Ciemmenen S. On Deficiency on Vitamin and Visual Dysadaptation, Levin and Munksgaard, Copenhagen 1938.
4. Park, I. O. *Am. J. Digest. Dia. & Nutrition* 3: 103 (1936).
5. Barbocka, C. J. *Treatment by Diet*, J. B. Lippincott, Co. Philadelphia, 1937.
6. (a) Mellanby E. *Brain* 58: 141 (1935).  
(b) Mellanby E. *Brit. M. J.* 1: 577 (1930).  
(c) Mellanby E. *J.A.M.A.* 90: 325 (1931).  
(d) Mellanby E. *Brain* 54: 247 (1931).  
(e) Mellanby E. *Nutrition and Disease* Boyd and Oliver London, 1934.  
(f) Zimmerman H. N. *J. Exper. Med* 57: 215 (1933).
7. Rall, E. P., and Waterhouse A. *Proc. Soc. Exper. Biol. & Med.* 30: 519 (1933).
8. Liang, B. and Wacker L. *Biochem. Ztschr* 164: 571 (1925).
9. Collazo, J. A., Torres, I. and Rodriguez S. *Klin. Wchnschr* 13: 1678 (1934).
10. Gilder, E. P. *Arch. Neurol. & Psychiat.* 39: 284 (1935).

- 11 Nelson, E M J A M A 110 645 (1938)
- 12 (a) Bijkman, C Virchow's Arch f path Anat 148 523 (1897)
- (b) Bijkman, C Virchow's Arch f path Anat. 149 187 (1897)
- 13 Davison, C, and Stone L Arch Path 23 207 (1937)
- 14 (a) Wechsler, I S M Rec 131 441 (1930)
- (b) Wechsler, I S Arch Neurol & Psychiat. 29 813 (1933)
- 15 Strauss M B Am J M Sc 89 378 (1935)
- 16 (a) Jolliffe N Colbert, C N and Joffe P N Am J M Sc 191 515 (1936)
- (b) Jolliffe, N, and Colbert, C N J A M A 107 642 (1938)
- (c) Goodhart, R., and Jolliffe, N J A M A 110 414 (1938)
- 17 Cowgill, G R The Vitamin B Requirement of Man, Yale University Press, New Haven, 1934
- 18 Wechsler I S, Jervis, G A. and Potts, H D Bull Neurol Inst New York 5 453 (1936)
- 19 (a) Strauss, M B J A M A. (in press)
- (b) Fouts, Gustafson and Zerfas Am J Obst. & Gynec. 28 902 (1934)
- (c) Strauss M B and McDonald J J A M A 100 1320 (1933)
- 20 Vorhaus, G, Williams R R., and Waterman R E J A M A. 105 1580 (1935)
- 21 Stern, E L Am J Surg 39 405 (1938)
- 22 von Lobenstein, F München med Wchnschr 83 510 (1936)
- 23 Helman, R Klin Wchnschr 16 1076 (1937)
- 24 Hesse München med Wchnschr 83 356 (1936)
- 25 Widenbauer Klin Wchnschr 14 608 (1936)
- 26 Gerstenberger H J Am. J Dis Child 26 309 (1923)
- 27 Wexberg J South M J 30 334 (1937)
- 28 Neumann, F München med Wchnschr 82 1959 (1935)
- 29 Carroll F D Arch Opth 16 919 (1936)
- 30 Selfridge, G Ann Otol, Rhin & Laryng 46 825 (1937)
- 31 Mouriquand G Morin G, and Edel, H. Compt rend Soc. de biol 119 617 (1935)
- 32 (a) Weiss, S Cecil's Textbook of Medicine, W B Saunders and Co, Philadelphia 4 562 (1938)
- (b) Strauss, M B J A M A. (in press)
- (c) Friedmann, A. Schweiz. Arch. Neurol & Psychiat. 39 286 (1937)
- (d) Jolliffe, N, and Goodhart, R. Personal communication
- 33 (a) Peters, R A Lancet, 230 1161 (1936)
- (b) Peters, R A and Thompson, R H S Biochem J 28 918 (1934)
- (c) Thompson, R H S Biochem. J 28 909 (1934)
- 34 Platt and Lu Quart J Med 5 355 (1938)
- 35 Geiger A, and Rosenberg, A Klin. Wchnschr 12 1258 (1933)
- 36 Sebrun W H J A M A. 110 1665 (1938)
- 37 Eddy W H, and Daildorf, G The Avitaminoses Williams and Wilkins Co, Baltimore, 1937
- 38 Orton S T and Bender, L Bull Neurol Inst New York 1 500 (1931)
- 39 Tucker B R South M J 28 603 (1935)
- 40 Fox, J C., Zimmerman, H M., and Cowgill G H. Tr Am Neurol A., 1936, p 70
- 41 Spies, T D., Cooper C, and Blankenhorn, M A J A M A 110 622 (1938)
- 42 Wright I S Am J M Sc. 182 719 (1936)
- 43 (a) Wortis, H, Wortis, S B, and Marsh, F I Am J Psychol 94 891 (1938)
- (b) Wortis H., Wortis S B and Marsh F I Arch Neurol & Psychiat. 39 1055 (1938)
- (c) Wortis, H., Liebmman, J., and Wortis, E J A M A 110 1890 (1938)
- (d) Wortis, H., Liebmman, J. and Wortis, E Am J M Sc 196 384 (1938)
- (e) Wortis, H., Liebmman, J., and Wortis S B Am J M Sc. 196 398 (1938)
- 44 (a) Hess, A F J Infect Dis 23 438 (1918)
- (b) Stewart, R M J Neurol & Psychopath 6 191 (1925)
- (c) Kennedy, F, and Wortis H Surg, Gynec., & Obst. 63 732 (1936)
- 45 Davison, C Personal communication.
- 46 Zimmerman, H M Arch Neurol & Psychiat 39 653 (1938)
- 47 Jungeblut C W J Exper Med 62 517 (1935)
- 48 Gerard, R W Ann Rev Biochem. 6 419 (1937)
- 49 Myers A W and McCormick L M Stanford Univ Publ Univ Series, M Sc 2 747 (1927-1930)
- 50 Gerard R W Ann Rev Biochem. 6 420 (1937)
- 51 Bersot, H Ann méd psychol 94 187 (1936)
- 52 Monauni, J Ztschr f d ges Neurol u. Psychiat. 157 636 (1937)
- 53 Hirata, Y., and Suzuki, K. Klin Wchnschr 16 1019 (1937)
- 54 Wortis, S B Bull Neurol Inst New York 4 588 (1936)
- 55 Evans, H. M., and Burr, G O J Biol. Chem. 76 263 (1928)
- 56 Pappenheimer, A M., and Goettsch, N Proc Soc Exper Biol & Med 34 522 (1936)

## Correspondence

Dr Peter Irving, Secretary  
Medical Society of the State of New York  
2 East 103rd Street  
New York, N Y

DEAR DR IRVING

About four years ago a physician representing the Physicians' Home in this state called on our local county medical society and requested the privilege of presenting the work of the Home before the assembly. None of us knew much about the Home, so because of the prejudice of one surgeon against one member of the executive committee of the Home the representative was not heard.

Now comes our surprise. We had a member who was a highly respected specialist. He and his wife occupied a high position in the community. Through financial misfortune and age they lost their savings and had to look for assistance. Who took them in? The Home did. There are

some of us now who feel heartily ashamed, and we are disposed to do our part if we could know again what it is all about. Who knows but that he or his wife may be just the ones who may need this assistance!

The Woman's Auxiliary is becoming splendidly organized, but there is still a field for an outlet for its work. If it is reasonable and possible, why could not the Auxiliary be given an interest in the control and management of the Home, and then make its welfare one of their own particular interests? I have no interests in either party except that my wife is a member of the Auxiliary, but the idea appeals to me greatly. At least it appears to be worthy of discussion.

If you should publish this letter, please omit my name and address, for obvious reasons, though I should be glad to acknowledge it publicly except for the persons involved.

May 12, 1939

M D, Syracuse

parison is made between percentage of reactions between men and women Table 5 shows this. It is seen that the incidence of postpuncture headache is far higher in women than in men quite analogous to the comparison of Puerto Ricans with other racial elements. The question again arises as to whether this

major clinics operated by the Department of Health of the City of New York.

2 Of 178 cisternal taps, 18 patients developed significant postpuncture reactions (10.1 per cent). Of 681 spinal punctures, 223 patients developed significant postpuncture headaches (32.9 per cent).

3 Reactions to cisternal puncture were much milder, only two reactions lasted longer than three days. Spinal puncture reactions averaged 4.32 days.

4 A relationship between race and incidence of reactions was shown in the case of spinal punctures. The percentage relationship was: Negro, 27.04 per cent; White, 32.9 per cent; and Puerto Rican, 43.1 per cent.

5 A relationship between sex and the incidence of reactions was shown in the case of spinal punctures. The percentage relationship was: males, 28.9 per cent; females, 43.9 per cent.

6 A relationship between neurosyphilis and the incidence of spinal puncture reactions was seen, tending to bear out the tradition that postpuncture headache usually indicates a negative spinal fluid, or but minor changes in the cerebrospinal axis. Neurosyphilis was present in 22.4 per cent of reactions. Of these, 17.4 per cent were the less severe cases of asymptomatic neurosyphilis and diffuse meningovascular neurosyphilis. In other words, it could be stated of this group that postpuncture headache was 95 per cent assurance that the spinal fluid was negative or cerebrospinal involvement was of mild degree.

7 Speculation regarding the undue incidence of postpuncture reactions in these clinics pointed to the rush of large clinics with inadequate facilities for postoperative rest, long elapsed time between leaving the clinic and getting to bed, subway rides, difficulties in technique in less experienced hands and possibly lack of physical stamina and increased suggestibility, as evidenced in the higher incidence of reactions among females and Puerto Ricans.

TABLE 5.—RELATIONSHIP BETWEEN SEX AND SPINAL PUNCTURE REACTIONS

| Sex    | Reactions | Total Punctures | Percentage |
|--------|-----------|-----------------|------------|
| Male   | 147       | 508             | 28.9       |
| Female | 76        | 173             | 43.9       |
| Total  | 223       | 681             | 32.8       |

greatly increased susceptibility in women due to a higher suggestibility, to their racial status, or to some far more subtle factor.

TABLE 6.—RELATIONSHIP BETWEEN NEUROSYPHILIS AND SPINAL PUNCTURE REACTIONS

|                            | Total Reactions 223 |            |
|----------------------------|---------------------|------------|
|                            | Number              | Percentage |
| Asymptomatic Neurosyphilis | 27                  | 12.1       |
| Meningovascular            | 12                  | 5.3        |
| General                    | 8                   | 3.6        |
| Paralysis                  | 2                   | .9         |
| Atrophy (without Tabes)    | 1                   | .5         |
|                            | 50                  | 22.4       |

There is an interesting relationship between the presence of neurosyphilis and spinal puncture reactions. Table 6 shows that fewer than 25 per cent of reactions considered to have neurosyphilis developed postpuncture headaches. Of these, more than half were asymptomatic, and the additional quarter had the diffuse meningovascular type of neurosyphilis. This alone is perhaps justified in the generally accepted view that postpuncture headache more often signifies that the spinal fluid will be negative.

These figures show that the incidence of postpuncture headache usually indicates cerebrospinal negativity or disease of mild degree. In this particular case, 22.4 per cent of those having postpuncture reactions following spinal tap had a negative spinal fluid or a mild degree of involvement of the cerebrospinal axis.

### Conclusions

A study was made of cisternal and spinal puncture reactions occurring in four

# MALIGNANCIES IN INFANCY AND CHILDHOOD

## A Clinical and Pathological Survey of 64 Consecutive Cases

D WILLIAM SCOTT, M D , New York City

(From the Department of Pediatrics, the New York Post-Graduate Medical School and Hospital, Columbia University, New York)

**I**N THIS paper a report of a survey is made based on a clinical and pathologic study of 64 consecutive cases of malignancies in infants and older children as they were admitted to the wards of the New York Post-Graduate Medical School and Hospital. The various types of malignancies, age and sex incidence, symptoms, signs, course, diagnosis, and treatment are carefully analyzed. The cases included in this series were all confirmed by a study of the gross pathologic findings at operation, as well as by microscopic examination of tissues obtained from biopsies and necropsies and by roentgenograms.

Although the incidence of malignant tumors in infancy and childhood is not very high, it is the appalling death rate caused by them that is alarming. It is hoped that early diagnosis and prompt irradiation therapy with the aid of surgery will help toward lowering the mortality rate.

The various types of malignancies will be discussed in the order of their frequency as they occurred in this collection.

**Types**—Whether the kidney or the eye is the most frequent neoplasm seen in infancy and childhood is still an open question. Picot<sup>1</sup> in a study of 414 cases of malignancies in children found the following order: eye 100, kidney 80, bones 67, brain and meninges 31, and abdomen and pelvis 19. D'Espine and Piso<sup>2</sup> in a review of 393 cases found the eye and orbital structures were involved in 52 per cent of the cases, the kidney in 20 per cent, bones in 17 per cent, brain

in 5 per cent, and abdomen and pelvis in 4 per cent. Porter and Carter,<sup>3</sup> and Helmholz<sup>3</sup> also observed that the eye malignancies led the kidney in frequency. Duzan<sup>4</sup> in an analysis of 182 cases found the eye leading the kidney in occurrence.

On the contrary, Steffen<sup>5</sup> in a tabulation of over 900 cases found that the neoplasms of the kidney and adrenals were the most common, tumors of the eye and the orbit second in frequency, those of the brain and meninges third, and those of the bones fourth. Wollstein<sup>6</sup> and Mixer<sup>7</sup> report the kidney and adrenals as the most frequent site of malignant disease during the first decade of life. In Abt's<sup>8</sup> *Pediatric Textbook* we find the following statement: "In adult life the stomach, uterus and liver lead in the order named whereas in childhood the kidney, eye and bones are frequently involved."

In this series, as seen in Table 1, neoplasms of the kidney and adrenals were most common, with those of the eye, bones, brain, retroperitoneal glands, mediastinum, liver, ovaries, pharynx, and thyroid following in the order named.

The incidence of neoplasms in infancy and childhood cannot be accurately computed, for it is not a reportable disease and the diagnosis can only be definitely established by operation and by biopsy and necropsy reports. It is obvious, therefore, that many cases of malignancies have probably died without having had a definite diagnosis made and therefore its incidence is much higher than that recorded.

**Age**—The ages in which the neo-

TABLE 1.—A STUDY OF 64 CONSECUTIVE CASES OF MALIGNANCIES IN INFANCY AND CHILDHOOD FROM THE WARDS OF THE NEW YORK POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL

| Types According to Frequency  | No. of Cases |
|---|--------------|
| 1 Malignancies of the kidney and adrenals                           | 13           |
| a—Embryonal adenomyosarcoma (Wilms)                                 |              |
| b—Neuroblastoma of adrenal  | 4            |
| c—Primary carcinoma of the kidney                                   | 3            |
| 2 Glioma of the retina (retinoblastoma)                             | 12           |
| 3 Malignancies of bones   | 10           |
| a—Periosteal sarcoma of humerus                                     |              |
| b—Periosteal sarcoma of jaw   |              |
| c—Fibrosarcoma of index finger                                      |              |
| d—Osteogenic sarcoma of left femur                                  |              |
| e—Osteogenic sarcoma of the clavicle                                |              |
| f—Fibrosarcoma of humerus   |              |
| g—Endothelial myeloma—right ulna                                    |              |
| h—Giant cell sarcoma—neck of the femur                              |              |
| i—Sacrococcygeal carcinomatous teratoma                             |              |
| j—Endothelial myeloma—left clavicle                                 |              |
| 4 Malignancies of the brain   | 8            |
| a—Glioma of the cerebellum  | 4            |
| b—Glioma of the cerebrum  | 2            |
| c—Cyst of the 3rd ventricle with pubertas praecox in a female child |              |
| d—Cerebellar astrocytoma  |              |
| 5 Retroperitoneal lymphosarcoma                                     | 5            |
| 6 Malignancies of the mediastinum                                   | 3            |
| a—Liposarcoma or thymoma  |              |
| b—Teratoma  |              |
| c—Primary carcinoma of the thymus                                   |              |
| 7 Primary carcinoma of the liver                                    | 2            |
| 8 Primary carcinoma of the ovary (embryonal)                        | 2            |
| 9 Fibrosarcoma of the pharynx                                       | 1            |
| 10 Primary carcinoma of the thyroid                                 | 1            |
| Total   | 64           |

|   |    |
|---|----|
| Age and Sex Incidence   |    |
| Under 6 months of age   | 9  |
| Between 6 months to 1 year  | 8  |
| 1-2 years   | 4  |
| 2-3 years   | 15 |
| 3-4 years   | 0  |
| 4-5 years   | 4  |
| 5-6 years   | 7  |
| 6-7 years   | 2  |
| 7-8 years   | 1  |
| 8-9 years   | 3  |
| 9-10 years  | 1  |
| 11-13 years   | 4  |
| Females 36 males 29   |    |
| Earliest case: 2 days of age  |    |
| Oldest case: 13 years of age (age limit in wards 13 years of age)       |    |
| Malignancies most commonly seen during first 3 years of life (25 cases) |    |
| Forty-six cases seen within the first 5 years of life                   |    |

plasms occurred range from 2 days to 13 years. However, it is important to mention that since cases over 13 years are not admitted to our wards we therefore have this age limit in this survey.

From Table 1 it can be noted that the malignancies are most commonly seen during the first 5 years of life, 46 of the 64 cases, or 72 per cent, occurring during this age period.

### Kidney Neoplasms

Malignancies of the kidney and adrenals, because of their frequency in early life and because of the high mortality resulting from their incidence, are by far the most important. In this review,

tumors of the adrenal and kidney numbered 20, or 31 per cent. The embryonal adenomyosarcoma of the kidney (Wilms) is the most common type of kidney tumor seen in infancy and early childhood. It was noted in 13 cases (see Table 2). The other 7 cases were divided between neuroblastoma of the adrenal (4 cases) and primary carcinoma of the kidney (3 cases) (See Tables 3 and 4.)

Since neither the scope of this paper nor time permit a lengthy discussion of the various types of malignancies, only the salient features will be mentioned.

The embryonal adenomyosarcoma, known also as congenital mixed tumor or Wilms' tumor, usually makes its appearance before the 5th year of life. In this study, 9 out of the 13 cases, or 69 per cent, were recognized within the first 3 years of life, and 11 cases, or 84 per cent, within the first 5 years of life. The other 2 cases were between 5 years and 6 years.

TABLE 2.—KIDNEY NEOPLASMS (20 CASES)

| Types  | No. of Cases |
|--|--------------|
| a—Embryonal adenomyosarcoma                                      | 13           |
| b—Neuroblastoma of the adrenal                                   | 4            |
| c—Primary carcinoma of the kidney                                | 3            |
| Embryonal adenomyosarcoma (Wilms') most commonly seen in infants |              |
| 1 Age and sex incidence  |              |
| Under 3 years  | 9            |
| Between 3-5 years  | 2            |
| Between 5-6 years  | —            |
| Total  | 13           |
| Females 7 males 6  |              |
| 2 Symptoms   |              |
| a—Perceptible mass   | 13           |
| b—Loss of weight   | 4            |
| c—Vomiting   | 2            |
| d—Abdominal pains  | 3            |
| e—Anorexia   | 3            |
| f—Constipation   |              |
| g—Pallor   | 2            |
| h—Ascites  | 2            |
| i—Jaundice   | 1            |
| j—Hematuria (not very common)                                    | 3            |
| 3 Metastasis   |              |
| a—Liver and intestines   |              |
| 4 Urine  |              |
| a—No blood   |              |
| b—Red blood cells and casts                                      |              |
| 5 Diagnosis  |              |
| a—Palpable mass on physical exam.                                |              |
| b—Retrograde pyelography   |              |
| c—Operation  |              |
| 6 Prognosis—bad—all died but 2                                   |              |
| 7 Treatment  |              |
| a—Nephrectomy  |              |
| b—X-ray therapy (preoperative and post operative)                |              |
| 8 Outcome  |              |
| a—One last seen 2 1/2 years p. o.                                |              |
| b—One still alive 5 1/2 years p. o.                              |              |
| c—Five died within 3 mo. p. o.                                   |              |
| d—One died of bronc. pneumonia 3 mo. after diagnosis             |              |
| e—Five unaccounted for   |              |



Walker<sup>9</sup> in his review of 155 cases found that 84 per cent of the cases occurred within the first 5 years of life, and 16 per cent above this age period. He also reported in this same series their occurrence in the fetus and the newborn. Although embryonal adenomyosarcoma is rarely seen during the second decade, cases have been reported in adults. Kilbane and Lester<sup>10</sup> reported a case in a man of 48 years of age.

*Sex*—Six were males and 7 females.

Concerning the origin of this type of tumor there has been much discussion, and no general agreement has been reached. The fact that its occurrence has been noted in the fetus and at birth establishes its embryonal and congenital origin.

*Symptoms*—As a rule, the earliest manifestation of Wilms' tumor is the presence of a mass in the abdomen. In this series, as noted in Table 2, a perceptible mass was present in all 13 cases. In 3 of these cases the mass was noted by the physician, which emphasizes the value of a thorough physical examination regardless of the chief complaint, and in the other 10 cases the mother either complained of the child having a lump in the abdomen or of an enlarged abdomen. Loss of weight, abdominal pain, loss of appetite were next in frequency, vomiting, pallor, constipation, ascites, and jaundice were also noted. Hematuria, a cardinal symptom in neoplasm of the adult genitourinary tract, is not very common. It was observed microscopically in only 3 cases. Metastasis was observed in 4 cases. In 3 cases the liver alone was involved, and in 1 the portal circulation and intestines.

*Diagnosis*—This is usually established by palpation of the mass on physical examination, by pyelography, the operative findings, and by the microscopic examinations from biopsies and necropsies. Aspiration biopsy may be employed when in doubt. A kidney neoplasm must be differentiated from adrenal tumors, hydronephrosis, congenital polycystic kidney, spleen when tumor is on

left side, and other extrarenal tumors.

*Prognosis*—Unfavorable. The outlook would be much brighter if the condition were recognized early and preoperative and postoperative irradiation were applied. Operative cures without irradiation are not very common. Wollstein has reported six and one-half years and thirty years postoperative survivals or cures.

*Treatment*—The treatment of choice in the absence of extensive metastasis is preoperative irradiation, nephrectomy, and postoperative irradiation.

*Outcome*—In this group of 13 cases of the Wilms' type of malignancy 5 died within three months after operation, 1 died of bronchopneumonia three months after the diagnosis was established, 1 is living and well five and one-half years after nephrectomy, 1 was last seen two and one-half years following operation, and 5 are unaccounted for.

### Neuroblastoma of Adrenals

This tumor arises from the medulla of the adrenal gland and is associated with the sympathetic nervous system, from which the adrenal medulla is developed. At times it is bilateral and occasionally it does not arise from the adrenal but from the sympathetic nerve tissue in the abdomen or thorax. Boyd<sup>11</sup> says "The microscopic picture resembles that of a sarcoma and formerly the tumor used to be called 'adrenal sarcoma of children'. The tumor consists of undifferentiated small round cells (neuroblasts), a few imperfect ganglion cells and fibrils. The fibrils are arranged either in longitudinal bundles or in little rounded masses around which the cells are grouped in a rosette form. These rosettes are characteristic of the tumor."

Neuroblastoma of the adrenals is usually seen in early infancy and up to about 4 years of life. Of the 4 cases included in this group of neoplasms, 1 was 3 months of age, 2 were under 2 years, and 1 under 4 years.

*Sex*—Three were males and 1 a female.

*Types*—Two types of adrenal neuro-

blastomas have been described—the Pepper and the Hutchinson. The Pepper type, as described by Pepper in 1901,<sup>12</sup> involves the right adrenal, is very malignant, and metastasizes to the liver and lungs but never to the skull and long bones. The Hutchinson type of neuroblastoma, described by Hutchinson in 1907,<sup>13</sup> arising from the left adrenal is very malignant and metastasizes to the skull, orbit, long bones, and lymph nodes. Three of the cases discussed here involved the left adrenal and therefore were of the Hutchinson type, while the other was of the Pepper type.

**Symptoms**—Here also a perceptible mass was observed in the 4 cases. Pallor, vomiting, loss of weight, swelling and ecchymosis of the left eye, loss of appetite, abdominal pain and pressure symptoms were noted (Table 3). Hematuria was absent in the 4 cases. A black and blue eye on the left side should always direct the pediatrician's attention to the abdomen. Metastasis occurs rapidly and principally through the lymphatics. In 3 cases metastasis occurred in the eye, vertebrae, long bones, and lymph nodes. In the 4th case, the Pepper type it occurred in the liver.

**Diagnosis**—This is arrived at by the palpation of the mass on physical examination, pyelography, operative findings, and microscopic examination from biopsies and necropsies.

**Prognosis**—This is always bad. They grow and metastasize so rapidly that when the cases reach the physician they are inoperable. The 4 cases described here were inoperable and died within one and one-half months, three months, and 2 cases in two months, from the time they were recognized. Campbell<sup>14</sup> found an operative mortality of 30 to 40 per cent. Of the 20 cases he studied, all died. Despite the fact that they usually die at operation or shortly after, Lehman<sup>15</sup> has reported a case of neuroblastoma that has survived fifteen years after operation and when last seen was in good health.

**Treatment**—Preoperative radiation therapy, surgery, and postoperative ir-

TABLE 3—NEUROBLASTOMA OF THE ADRENAL (4 CASES)

|  | No. of Cases |
|--|--------------|
| 1 Age and sex incidence  |              |
| 1-3 months of age  |              |
| 1-12 months of age   |              |
| 1-19 months of age   |              |
| 1 3 1/2 years of age   |              |
| Males 3 females 1  |              |
| 2 Symptoms   |              |
| a—Pallor   | 3            |
| b—Swelling and ecchymosis of left eye (exophthalmos)   | 1            |
| c—Perceptible mass   | 4            |
| d—Vomiting   | 3            |
| e—Loss of appetite   | 1            |
| f—Dyspnea  | 1            |
| g—Abdominal pain   | 1            |
| h—Constipation   | 1            |
| i—Convulsion   | 1            |
| j—Loss of weight   | 1            |
| k—No hematuria   | 1            |
| 3 Types  |              |
| a—Pepper (1 case) involves right adrenal and metastasizes to liver and lungs                               |              |
| b—Hutchinson (3 cases) involves left adrenal and metastasizes to orbit, long bones, skull and lymph glands |              |
| 4 Metastasis   |              |
| a—Eye  |              |
| b—Long bones   |              |
| c—Lymph glands   |              |
| d—Vertebrae  |              |
| e—Liver  |              |
| f—Stomach  |              |
| g—Pancreas   |              |
| h—Testes   |              |
| 5 Urine  |              |
| a—No blood   |              |
| 6 Diagnosis (same as Wilms)  |              |
| 7 Prognosis—very bad   |              |
| 8 Treatment  |              |
| a—X ray therapy  |              |
| b—The 4 cases were inoperable  |              |
| 9 Outcome  |              |
| Mortality 100%—all died within 3 months  |              |

radiation by the divided dose method should be employed.

**Outcome**—Mortality 100 per cent. The 4 cases died.

### Primary Carcinoma of the Kidney

Primary carcinoma of the kidney is an extremely rare condition in children. Gallard,<sup>16</sup> in a study of 1,063 cases of carcinoma of the kidney, found only 6 cases under 10 years of life. Campbell was able to find only 2 cases reported. Helmholtz states that only 3 per cent of the tumors in children are carcinomatous, whereas in adults 90 per cent are carcinomatous and 10 per cent sarcomatous. In his series of 750 cases of malignancies in children, primary carcinoma of the kidney was not found. Ewing<sup>17</sup> is also of the opinion that the carcinomas are rare in comparison to the mixed tumors. Some investigators believe that there are cases reported as carcinomas that are really mixed tumors.

In this series, 3 cases have been diagnosed as primary carcinoma of the kidney, all of which have been checked by competent pathologists (Table 4)

*Age and Sex*—One was 6 months, 1 under 5 years, and the other under 7 years. Two were females and the other a male

*Symptoms*—Here also a perceptible mass was noted in the 3 cases. Abdominal pain, vomiting, fever, cough, shortness of breath, fatigue, and anorexia were also noted. Hematuria, a frequent symptom in adult carcinoma of the kidney, was absent

*Metastasis*—Occurred in the lungs, pleura, and intestines

*Diagnosis*—Made by the same procedure described under Wilms' type

*Prognosis*—Very grave. One died three months, 1 six months, and the other two and one-half years after operation

*Treatment*—The same as advised under previous kidney conditions

*Outcome*—Mortality 100 per cent. The 3 cases died

### Glioma of the Retina (Retinoblastoma)

As has been mentioned, the question as to whether the retinal glioma or malignancy of the kidney and adrenals is the most common neoplasm in infancy and early childhood is still an open one. Nevertheless, its frequency justifies its importance

Accurately speaking, glioma of the retina is a misnomer, for it does not have its origin from the neuroglial cells and bears no resemblance whatever to the glioma of the brain. This extremely malignant tumor should be more correctly called neuroepithelioma of the retina, or retinoblastoma. It is more closely related to the neuroepithelioma seen in the suprarenal gland. The glioma contains no glia fibers and, as it seems to develop from the retinal analage of the embryo, it is better to call it a retinoblastoma. The presence of rosettes of columnar cells, a frequent though not constant finding, also suggests the neuroepithelioma or neuroblastoma

TABL 4 —PRIMARY CARCINOMA OF THE KIDNEY  
(4 CASES)

|                               | No of Cases |
|-------------------------------|-------------|
| 1 Age and sex incidence       |             |
| 6 months of age               | 1           |
| 4½ years of age               | 1           |
| 6½ years of age               | 1           |
| Females 2 cases, males 1 case |             |
| 2 Symptoms                    |             |
| a—Perceptible mass            | 3           |
| b—Fatigue                     | 3           |
| c—Abdominal pains             | 2           |
| d—Vomiting                    | 2           |
| e—Fever                       | 2           |
| f—Shortness of breath         | 2           |
| g—Anorexia                    | 2           |
| h—No hematuria                | 2           |
| 3 Metastasis                  |             |
| a—Liver                       |             |
| b—Lungs                       |             |
| c—Glands                      |             |
| 4 Urine                       |             |
| a—No blood                    |             |
| 5 Diagnosis (same as Wilms)   |             |
| 6 Prognosis very bad—all died |             |
| 7 Treatment                   |             |
| a—Nephrectomy in 3 cases      |             |
| 8 Outcome 100% mortality      |             |
| 1-3 mo p o                    |             |
| 1-6 mo p o                    |             |
| 1-2½ yrs p o                  |             |

Since the retinoblastoma may make its appearance at birth and is usually seen under 4 years of age, it may be regarded as of congenital origin. Verhoeff,<sup>18</sup> however, has reported a case in a patient of 48 years. It is believed that this is the only case on record of retinoblastoma in a person over 15 years of age. At times it shows a familial and hereditary tendency, occurring in more than one child of the same family and in several generations

In this survey, it was observed, as seen in Table 5, that 10 cases (83 per cent) were found in children under 4 years, resembling in this respect the neuroblastoma of the adrenal. The other 2 occurred between 4 and 7 years. Neither any hereditary nor familial characteristics were included in this series. One case had bilateral involvement of the eyes

*Sex*—Cases were equally divided between both sexes

*Symptoms*—What most frequently attracts the mother's attention is the appearance of a white spot on the eye (Fig 1). This is the whitish reflection behind the child's pupil that gives the eye the appearance of a cat's eye in the dark. Table 5 reveals that this was noted in 8 cases (66 per cent). Enlargement of the eye was seen in 6 cases (50 per cent), poor vision in 4 cases (33½ per cent),

TABLE 3—EYE TUMORS (12 CASES)

|                                      | No. of Cases |
|--------------------------------------|--------------|
| Retinoblastoma                       | 11           |
| Sarcoma                              | 1            |
| 1. Age and sex incidence             |              |
| Between birth and 6 months           | 5            |
| 6 months-1 year                      | 2            |
| 2-3 years                            | 1            |
| 3-4 years                            | 1            |
| 4-5 years                            | 1            |
| 6-7 years                            | 1            |
| Females 0 males 6                    |              |
| 2. Symptoms                          |              |
| a—Poor vision                        | 4            |
| b—Spot in eye (white)                | 8            |
| c—Enlargement of eye                 | 6            |
| d—Redness and swelling               | 2            |
| e—Red spots                          | 1            |
| f—Paralysis                          | 1            |
| g—Bilateral involvement              | 1            |
| h—Dilatation of pupil                | 3            |
| i—Incont. of urine and feces         | 1            |
| 3. Metastasis                        |              |
| a—Spinal cord                        |              |
| b—Sacrum                             |              |
| 4. Methods of diagnosis              |              |
| a—Appearance of eye                  |              |
| b—Operation                          |              |
| c—Pathologic report                  |              |
| 5. Prognosis—fair if diagnosed early |              |
| 6. Treatment                         |              |
| a—Enucleation (12 cases)             |              |
| b—Radium                             |              |
| c—X-ray                              |              |
| 7. Outcome                           |              |
| Two dead                             |              |
| Ten unaccounted for                  |              |

redness and swelling in 2 cases (16 per cent), and bilateral involvement in 1 case (8 per cent). Unfortunately, dilatation of the pupil, an important and frequent finding, was only mentioned in 3 cases (25 per cent).

**Metastasis**—Since it has a tendency to spread along the optic nerve, secondary intracranial growths are common and are usually responsible for deaths. Metastasis generally involves the lungs, preauricular and retroperitoneal lymph glands, and long bones. Other organs are less frequently involved. Whether involvement of the other eye is a second primary tumor or metastasis is still a moot question. Berens<sup>19</sup> believes in the former view. He states that the tumor is often seen in the second eye long before evidence of generalized metastasis can be discovered, and that occasionally cures result after enucleation of the worst eye with irradiation of the other less affected eye. Of the 12 cases reported here, metastasis resulted once in the sacrum and spinal cord.

**Diagnosis**—Established by the appearance of the eye and pathologic re-

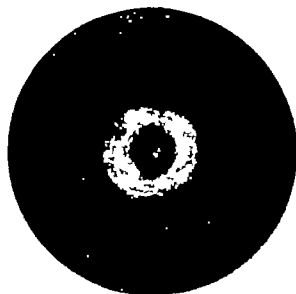


FIG 1 Showing white spot behind pupil

port from the organ removed on operation.

**Prognosis**—Depends upon early recognition and is fair if enucleation is performed before extension along the optic nerve takes place.

**Treatment**—Enucleation of the affected eye as soon as possible followed by irradiation is the treatment of choice. Before this step is taken, the presence of metastasis should be excluded by a careful examination of the child and x-ray of the long bones and of the lungs.

When both eyes are involved, bilateral enucleation is repugnant to the parents. They prefer death of the child. The procedure of choice in this situation is to remove the larger eye and treat the other with radium externally or with radium needles inserted into it. This plan was followed in the 1 case of bilateral involvement mentioned here. Enucleation was performed in all 12 cases.

**Outcome**—Unfortunately we were not so successful in our follow up of this group. Of the 12 cases, 2 are known to be dead and 10 are unaccounted for.

### Bone Tumors

Malignant bone tumors may be either primary or secondary. The latter type, which is usually encountered after middle life, is carcinomatous, while the former, or primary, is sarcomatous and is usually seen during adolescence. The osteogenic



FIG 2 Osteogenic sarcoma, left femur

sarcoma and endothelioma of bone (endothelial myeloma, Ewing's tumor) are the malignant bone tumors that are chiefly met with in childhood and adolescence. The benign giant cell tumor is included here for the purpose of comparison and discussion. It occurs as a rule in persons under 30 years of age.

Of the 10 bone tumors included in this series, 6 belong to the osteogenic group, 2 to the endothelial group, 1 to the benign giant cell tumor, and 1 was classified as a sacrococcygeal carcinomatous teratoma.

*Age and Sex Incidence*—Nine cases were under 6 years of age, with 8 males and 2 females (Table 6).

While most of the osteogenic sarcomas arise beneath the periosteum at the end of the shaft of the long bones and grow into the medullary cavity, there is a highly malignant type known as the periosteal sarcoma, which arises from the periosteum apparently from the outer layers, growing outward without producing any changes in the shaft or medullary portion (Fig 2).

Osteogenic sarcoma, the most malignant and most frequent bone tumor, is most commonly seen between the ages

of 10 and 30. It is also not infrequently observed under 10 years of age. In fact, the 6 cases all occurred under 6 years of age (Table 6).

*Symptoms*—The earliest symptom is a persistent dull aching pain, which is worse at night. It may be accompanied by a low-grade temperature, which has led many a physician to think of rheumatic fever. A constant, at times intermittent, unexplained pain should suggest the idea of osteogenic sarcoma. It usually precedes the appearance of the tumor by weeks or months. The fusiform-shaped mass is as a rule located at the end of the bone and fades away on the shaft. All of the 6 cases under discussion here were seen after the appearance of the swelling.

TABLE 6—BONE TUMORS (10 CASES)

|   |   |  |             |
|---|---|--|-------------|
| A | 1 | Osteogenic sarcoma (most common type in children)  | No of Cases |
|   | 1 | Periosteal sarcoma of humerus  | 1           |
|   | 2 | Periosteal sarcoma of jaw  | 2           |
|   | 3 | Fibrosarcoma of index finger   | 2           |
|   | 4 | Fibrosarcoma—left humerus  | 1           |
|   | 5 | Osteogenic sarcoma—left femur  | 1           |
|   | 6 | Osteogenic sarcoma—clavicle  | 1           |
|   | 2 | Endothelial myeloma (Ewing's Tumor) (a disease of childhood)   |             |
|   | 1 | Endothelial myeloma (right ulna)   |             |
|   | 2 | Endothelial myeloma (left clavicle)  |             |
|   | 3 | Giant cell tumor—neck of femur—seen in children and in young people under 30 years of age            |             |
|   | 4 | Sacrococcygeal carcinomatous teratoma  |             |
| B |   | Age and sex incidence  |             |
|   |   | Under 6 months   | 1           |
|   |   | 6 months—1 year  | 2           |
|   |   | 2—3 years  | 2           |
|   |   | 3—4 years  | 1           |
|   |   | 4—5 years  | 1           |
|   |   | 5—6 years  | 1           |
|   |   | 12 years of age  | 1           |
|   |   | Males 8 cases, females 2 cases   |             |
| C |   | Symptoms   |             |
|   | a | Swelling—noticed in 10 cases   |             |
|   | b | Inability to walk in the giant sarcoma   |             |
| D |   | Metastasis   |             |
|   | a | Lungs—1 case   |             |
|   | b | Axillary lymph glands—1 case   |             |
| E |   | Prognosis  |             |
|   |   | Very bad—the younger the patient the worse the prognosis early diagnosis helpful                     |             |
| F |   | Methods of diagnosis   |             |
|   | a | X ray  |             |
|   | b | Operation  |             |
| G |   | Treatment  |             |
|   | a | Amputation in the osteogenic type followed by x-ray therapy  |             |
|   | b | In the endothelial myeloma type irradiation over a long period of time, for it has tendency to recur |             |
|   | c | Giant cell—irradiation and surgery   |             |
| H |   | Outcome  |             |
|   | a | Osteogenic type  |             |
|   |   | 1 died 11 months after diagnosis   |             |
|   |   | 5 unaccounted for  |             |
|   | b | Endothelial type (2 cases)   |             |
|   |   | 1 died 2 weeks after diagnosis—bronchopneumonia  |             |
|   |   | 1 alive and well 7 years 3 mo after irradiation  |             |
|   | c | Giant cell tumor—1 case alive  |             |
|   | d | Sacrococcygeal carcinomatous teratoma unaccounted for  |             |

*Metastasis*—Takes place mainly through the blood stream, due to the vascular arrangement. The lungs are most frequently involved. Metastasis to the lungs occurred in 1 case. Before considering any operative step it is necessary to x ray the lungs for metastasis.

*Diagnosis*—Established by the symptoms of pain and later swelling and with the aid of the x ray. Biopsy is objected to by some who feel that it accelerates growth. Since it resists irradiation while the giant cell tumor responds to it, irradiation may act as a therapeutic test in establishing the diagnosis. This procedure not only assists in arriving at the diagnosis, but restrains the growth and favors successful amputation.

*Prognosis*—Very bad but not hopeless, especially if the diagnosis is made early by x ray and if proper treatment is immediately instituted. The age is also a determining factor, the prognosis being worse in the very young.

*Treatment*—After the tumor mass has failed to respond to irradiation and the diagnosis of osteogenic sarcoma is made, immediate amputation should be done. Since metastasis occurs frequently, surgery or radiotherapy or a combination of both do not offer much in the treatment of osteogenic sarcomas. Recoveries, however, have been reported. The mortality rate can only be reduced by early diagnosis.

*Outcome*—Of the 6 cases under consideration in this report 1 died eleven months after diagnosis and the other 5 are missing.

#### Endothelial Myeloma (Ewing's Tumor)

The other type of bone tumor seen in children is known under several names as Ewing's tumor, endothelioma of bone and endothelial myeloma. At the present time, this bone tumor has been established as a distinct and important clinical and pathologic entity. Endothelial myeloma is a disease of childhood occurring usually between the ages of 5 and 15 years, and rarely over 30. The small and flat bones are usually involved, such as the tibia,

humerus, femur, fibula, clavicle, and os calcis. It is believed that the tumor probably starts from some type of endothelial cell in the medullary cavity.

Of the 2 cases considered here, 1 was 11 months of age and the other 2 years of age, 1 was a female and the other a male.

*Symptoms and Course*—The onset of the disease is usually marked by pain, which at first is intermittent then continuous, fever, and the appearance of a swelling. This picture often follows a history of a fall or trauma and therefore strongly suggests osteomyelitis. One of the cases which I will discuss later presented such a picture.

*Metastasis*—Spread occurs within the shaft both longitudinally and transversely by means of bone canals. Distant spreads occur to the lungs, lymph nodes, and other bones. Bone metastases are very important in the differential diagnosis, for they are rarely seen in osteogenic sarcoma.

*Prognosis*—Very bad. The disease may be held in check by irradiation for several years, but usually results in death. Ewing,<sup>20</sup> however, states that cures have been reported by irradiation alone. Our case is still alive after seven years. He also reports that in 24 fatal cases, the average duration of life was nineteen months, and in 54 cases, both dead and alive, the average duration was over three years. One of the cases died nine years after amputation from other causes.

*Diagnosis*—Established by x ray, response to radiotherapy, and metastasis to other bones.

*Treatment*—As soon as the diagnosis is made, immediate treatment by irradiation in full doses and over a considerable period of time is necessary. One of the most striking characteristics of this tumor is its response to irradiation. It may melt away completely only to recur. With this in mind, irradiation therapy should be continued long after the signs of the disease have disappeared. Some believe in amputation and irradiation but Ewing states that secondary tumors occur

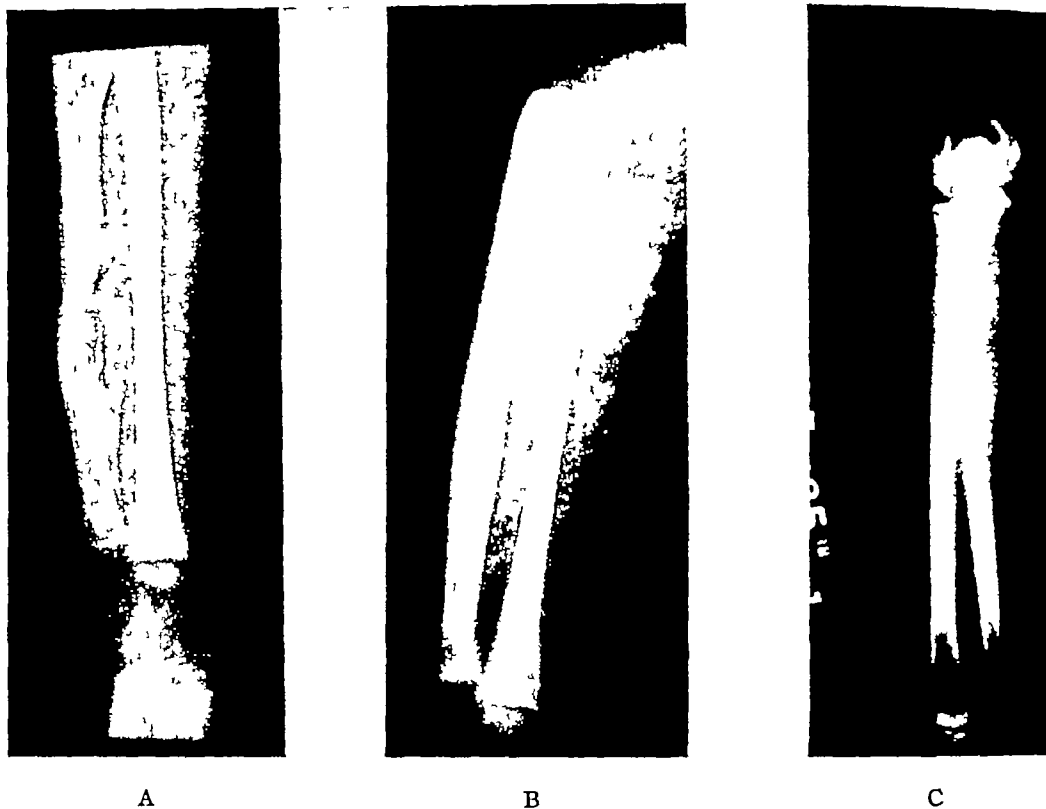


FIG 3 A Shows endothelial myeloma of right ulna in 1930 before radiotherapy, age 2 years  
 B Shows condition after irradiation C Shows condition March, 1938

in children so early that amputation is of little value. Our case, which was treated by irradiation alone, is alive today, seven years after its recognition.

E S, a female child aged two years, was admitted to the hospital on November 13, 1930, with the complaint of fever, pain, and swelling of the right forearm. About two and a half weeks prior to admission the child fell, injuring her right forearm. The following day the arm was observed to be swollen and painful. The child also had fever. X-ray at that time was negative, and on November 12 x-ray revealed the presence of an endothelial myeloma of the right ulna. X-ray therapy was immediately started and the last x-ray taken in March, 1938, revealed no abnormality except a slight degree of cortical thickening in the midshaft of the right ulna (Fig 3). The child today is 9 years of age and enjoying good health. Mortality rate can be reduced only by

early diagnosis and the institution of proper treatment.

*Outcome*—Two cases of endothelial myeloma were recorded, the above-mentioned case and 1 of the clavicle, who died of bronchopneumonia two weeks after the diagnosis was established.

### Giant Cell Tumor

Giant cell tumor was formerly called giant cell sarcoma because this benign tumor was believed to be malignant. It is included in this discussion because it has to be differentiated from the malignant bone tumor. It is usually seen in children and young people under 30 years. It occurs principally at the ends of long bones. The center of the bone is widened with a thinning of the cortex, which condition predisposes to spontaneous fracture. The x-ray picture is highly characteristic. It shows a rarefied multicystic appearance resembling bubbles,



FIG 4 Giant cell tumor neck of left femur

thinning of the cortex and is sharply demarcated (Fig 4) It is highly vascular, and death may occur from hemorrhage. Trauma is usually associated with it but the true condition exists before trauma occurs. Metastasis does not occur in this type.

**Treatment**—The giant cell tumor responds to irradiation. Surgery, with its risks of hemorrhage and infection, is being rapidly displaced.

**Outcome**—The 1 case of giant cell tumor in this series is alive after operation and is receiving irradiation therapy.

### Brain Tumors

In this series there were 8 cases of brain tumors. Although they do not occur as frequently as in adults, about 14 per cent<sup>21</sup> cause symptoms before 15 years of age.

The glioma is the most common brain tumor in childhood. The proportion of cerebellar to cerebral tumors in children is about 2:1, whereas in adults it is 1:5.<sup>22</sup>

The most common type of glioma encountered in children is the slow growing,

TABLE 7—BRAIN TUMORS (8 CASES)

|  |                                 |
|--|---------------------------------|
| 4 Glioma of the cerebellum   |                                 |
| 1 Glioma of the vermis (malignant)   |                                 |
| 1 Glioma of the right cerebral hemip. with hydrocephalus                             |                                 |
| 1 Cyst of third ventricle (with pubertas praecox in a female child) (4th known case) |                                 |
| 1 Cerebellar astrocytoma   | No of Cases                     |
| 1 Age and sex incidence  |                                 |
| Between 2 and 3 years  | 2                               |
| Between 5 and 6 years  | 2                               |
| Between 8 and 9 years  | 3                               |
| 13 years of age  | 1                               |
| Females 3 males 5  |                                 |
| 2 Symptoms   |                                 |
| a—Headaches  | 5                               |
| b—Staggering gait  | 3                               |
| c—Vomiting   | 5                               |
| d—Irritability (laughing and crying)   | 4                               |
| e—Dizziness  | 5                               |
| f—Loss of weight   | 2                               |
| g—Pallor   | 1                               |
| h—Slow speech  | 1                               |
| i—Convulsions  | 1                               |
| j—Enlarged head  | 1                               |
| k—Inability to sit up  | 1                               |
| l—Hydrocephalus  | 3                               |
| m—Choked disc  | 5                               |
| n—Diplopia   | 1                               |
| o—Inability to walk  | 1                               |
| p—Strabismus   | 1                               |
| q—Impaired vision  | 1                               |
| 3 Methods of diagnosis   |                                 |
| a—History  |                                 |
| b—Physical examination   |                                 |
| c—Operation  |                                 |
| d—Ventriculogram   |                                 |
| 4 Prognosis—very bad   |                                 |
| 5 Treatment  |                                 |
| a—Operation  | suboccipital decompression 5    |
|  | exploratory 1                   |
|  | puncture corpus callosum ext. 1 |
|  | hydrocephalus 1                 |
| b—X ray  |                                 |
| 6 Outcome  |                                 |
| a—One died 1 year p.o.   |                                 |
| b—Five died 5 mos. p.o.  |                                 |
| c—One unaccounted for  |                                 |
| d—One still alive (?)  |                                 |
| The 6 deaths occurred within 1 year p.o.   |                                 |

comparatively benign brain tumor consisting of astrocytes. According to the classification of Bailey and Cushing,<sup>23</sup> these gliomas are known as astrocytomas. The astrocytoma is most frequently located in the cerebellum. Since this type of glioma very often undergoes cystic degeneration due to its avascular structure, cerebellar cysts in children as a rule represent degenerated astrocytomas.

The next type of glioma commonly seen in children is the rapidly growing, highly cellular malignant tumor known according to the classification of Bailey and Cushing<sup>2</sup> as the medulloblastoma. It usually originates in the midline of the cerebellum from the roof of the fourth ventricle.

In this study, as evidenced in Table 7, 1 was classified as an astrocytoma, 1 as a medulloblastoma, 5 under the heading of glioma, and 1 as a cyst of the third ventricle.





FIG 5 Cyst of third ventricle showing pubertas praecox

*Age and Sex*—All but one occurred under 9 years of age. Five were males and 3 were females.

*Symptoms*—The classical symptoms of headaches, staggering gait, vomiting, irritability (laughing and crying), dizziness, convulsions, and slow speech as shown in Table 7 were present at one time or other. While choked disc is frequently seen, it may be absent in the infants because the imperfectly ossified sutures may expand on increased intracranial pressure. The presence of local symptoms depends upon the location of the neoplasm and the presence of increased intracranial pressure.

Metastasis to distant organs rarely occurs. The invasion is usually local.

*Diagnosis*—Established by the presence of the signs and symptoms, x-ray, and encephalography. It must be differentiated from tubercle, brain abscess, gumma, and encephalitis.

*Prognosis*—Generally bad. The course is usually progressive and terminates in death. The astrocytoma, which is relatively benign, will kill the patient by causing increased intracranial pressure. Cushing states that the average time of survival after operation for the astrocytoma is six years, while for the medulloblastoma it is six months before operation and six months after.

*Treatment*—Although complete extirpation is difficult, it should be done if possible. Suboccipital decompression may give relief and preserve the eyesight for a while. X-ray therapy should be part of the follow-up treatment.

*Outcome*—In this series 1 case was lost to observation, 5 cases died within five months following operation, 1, one year after operation, and the case of the cyst of the third ventricle is still alive.

### Cyst of the Third Ventricle with Pubertas Praecox in a Female Child

Before leaving this section on brain tumors, I would like to state that the case of the cyst of the third ventricle with pubertas praecox in a female child, though not a malignancy, was reported because of its interesting points. I therefore shall refer to it separately.

A female child, 3 years and 2 months of age, was admitted on October 26, 1936, with the complaint of inability to talk, walk, and stand, or use the right arm or leg. Physical examination revealed a well-developed and nourished child showing evidence of adiposity and premature sexual development: large mature-looking breasts, external genitalia comparable to those of a child at the age of puberty, and sparse pubic hair (Fig 5). A right hemiparesis, thalamic type of pain on that side, marked ankle clonus of the right foot, and bilateral optic atrophy were also noted. The urine was negative for prolan. On November 16, 1936, ventriculogram showed a large mass filling the region of the third ventricle with enlarged ventricular system on the left and internal hydrocephalus (Fig 6). On December 3 cra-

notomy was done, the third ventricle was entered and the cyst was incised, cauterized, and removed. On discharge from the hospital she showed signs of improvement. She was brighter and recognized people, and although she was still unable to walk, the hemiplegia was improved.

During her last visit it was noted that she had made considerable mental progress. She now can talk and behaves in a manner that approaches normal.

Until the time of the operation, even though the encephalogram revealed a tumor in the third ventricle, the diagnosis of pineal tumors was given serious consideration despite the child's sex.

Pineal tumor is a rare condition that usually occurs in the second decade of life. It gives the symptoms of increased intracranial pressure, localized symptoms, and at times those of *pubertas praecox*. Before the age of puberty children with tumors of the pineal body, in addition to manifestations due to general or localized pressure, present a picture of premature physical and sexual development which has been called by Pellizzi *macrogenitosomia praecox*. This syndrome is not a very common one. Haldeman<sup>24</sup> in 1927 reviewed the literature and found that of 113 cases of pineal tumor recorded, only 16 cases under 13 years of age showed premature sexual development, all occurring in males. Harrox<sup>25</sup> in 1925 stated that there was only 1 case of verified pathologic condition in the pineal body of a female subject showing premature adolescence and that in this case there was a hypoplasia of the pineal body. Again in 1937 Harrox<sup>26</sup> declared that this syndrome with one possible exception has always occurred in males. This fact aroused considerable interest in the discussion of this case for a tentative diagnosis of pineal tumor was made.

Just why this picture of premature physical and sexual development occurs in some children and not in others is difficult to explain. Whether this syndrome is a result of disturbed function of the pineal body is still a debatable ques-



FIG 0 Roentgenogram (ventriculogram), showing cyst of third ventricle.

tion. Against the argument that it is due to the destruction of this body which by some is considered a gland, we have the failure of development of precocity in animals after destruction of the body and failure to produce growth in animals after feeding the extract. Furthermore, cases have been reported in which there has been a complete destruction of the pineal body without the development of *pubertas praecox*. Harrox and Bailey in 1925<sup>27</sup> reported a case of pineal tumor with infantile development. Relationship between *pubertas praecox* and tumor of the pineal body can be disproved by the presence of the syndrome in tumors of the third ventricle without involvement of the pineal body. Such cases have been reported by Weiland,<sup>27</sup> Harrox and Bailey,<sup>28</sup> and Bailey.<sup>29</sup> All of these have been found in male subjects. To these, this case of cyst of the third ventricle presenting signs of a brain tumor and that of premature sexual development in a girl of 3 years of age may be added. Premature sexual development may also make its appearance in cases of tumor of the adrenal, ovary, and testicle.

Thus, we can see that the explanation for the appearance of premature sexual development in these cases is still obscure and mysterious.



Fig 7 Roentgenogram showing displacement of kidney by retroperitoneal tumor

The following features are of interest in this case its rarity, sex, clinical resemblance to pineal tumor, and the fact that it shows that symptoms of brain tumor and pubertas praecox can occur in tumors located in other regions of the brain besides that of the pineal body

### Retroperitoneal Lymphosarcoma

Retroperitoneal lymphosarcoma is not as uncommon as one might be led to believe. A tumor formed of retroperitoneal lymph nodes produces abdominal enlargement and frequently this disease is mistaken for a kidney or adrenal tumor. Its course is usually rapid and is almost invariably fatal. At times intestinal involvement is also present, making the exact origin of the neoplasm doubtful. The 5 cases under discussion were all under 6 years of age and 2 were males while the other 3 were females.

**Symptomatology**—As illustrated in Table 8, the symptoms are similar to those produced by a kidney neoplasm.

**Metastasis**—Occurred in other lymph nodes, lungs, brain, and liver.

TABLE 8—RETROPERITONEAL TUMORS (5 CASES)

|   | Lymphosarcomas   | No. of Cases |
|---|--|--------------|
| 1 | Age and sex incidence  |              |
|   | Between 6 months and 1 year  | 1            |
|   | Between 2 and 3 years  | 2            |
|   | Between 3 and 4 years  | 1            |
|   | Between 5 and 6 years  | 1            |
|   | 1 males 3 males 2  |              |
| 2 | Symptoms   |              |
|   | a—Perceptible mass   | 4            |
|   | b—Abdominal pain   | 2            |
|   | c—Loss of weight   | 1            |
|   | d—Loss of appetite   | 3            |
|   | e—Convulsions  | 1            |
|   | f—Constipation   | 2            |
|   | g—Imp in right leg   | 1            |
| 3 | Metastasis   |              |
|   | a—Lungs and brain  |              |
|   | b—Lymph glands   |              |
|   | c—Lungs and liver with ascites   |              |
|   | d—Spine  |              |
| 4 | Diagnosis  |              |
|   | a—Perceptible mass   |              |
|   | b—Operation  |              |
|   | c—Path report  |              |
| 5 | Prognosis  |              |
|   | a—Bad—usual course is rapid progressive, and fatal within a few months |              |
| 6 | Treatment  |              |
|   | a—Operation  | 4            |
|   | b—X ray  | 1            |
| 7 | Outcome—all died   |              |
|   | 2 yrs duration—died  |              |
|   | 3 mo duration—died   |              |
|   | 1 1/2 yrs duration—died  |              |
|   | 5 mo duration—died   |              |
|   | 3 mo duration—died   |              |

**Diagnosis**—A differential diagnosis between a kidney tumor and a retroperitoneal has more than academic value, for it will spare the child an unnecessary operation. As a rule, more than one mass is felt. Other small, freely movable abdominal masses may be palpated, confusing the picture with T B C, peritonitis, and Hodgkin's. Urographic studies will usually show displacement of kidney and help in the recognition of the disease (Fig 7).

**Prognosis**—Grave. The usual course is rapid, progressive, and fatal within a few months.

**Treatment**—Operation is of little value, for the condition is usually widespread. Operation was performed on 4 cases, and the usual picture of scattered involvement was observed. The more conservative method, radiation, appears to be the treatment of choice.

**Outcome**—The 5 patients died. Of the 4 cases operated on 3 died within one month of the operation and the other within three months. If we consider the time the abdomen appeared to be enlarged as the date of the diagnosis, we can conclude that no case survived longer than two years since its recognition.

TABLE 9—MEDIASTINAL TUMORS (3 CASES)

| Types        |  |
|--------------|--|
| 1            | Teratoma   |
| 2            | Primary carcinoma of thymus (5 cases reported to date)   |
| 3            | Liposarcoma or thymoma (?)   |
| No. of Cases |  |
| 1            | Age and sex incidence  |
|              | 7 months of age  |
|              | Between 2 and 3 years  |
|              | 7 years and 10 mo. of age  |
|              | Females 2 males 1  |
| 2            | Symptoms   |
|              | a—Cough  |
|              | b—Dyspnea  |
|              | c—Anorexia   |
|              | d—Loss of weight   |
|              | e—Cyanosis   |
| 3            | Metastasis—none  |
| 4            | Methods of diagnosis   |
|              | a—X ray  |
|              | b—Paracentesis   |
|              | c—Necropsy   |
| 5            | Prognosis—bad  |
| 6            | Treatment  |
|              | a—Carcinoma of the thymus and for teratoma complete extirpation when possible with irradiation |
|              | b—Liposarcoma or thymoma—Irradiation   |
| 7            | Outcome—three patients died  |

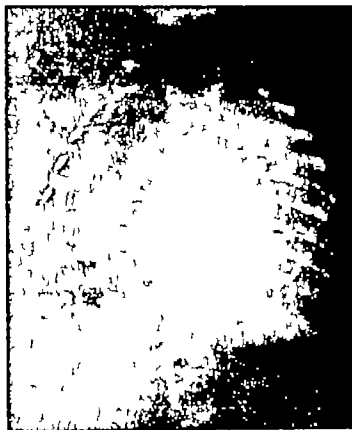


FIG 8 Roentgenogram showing mass behind heart and areas of calcification in left lung

### Mediastinal Tumors

Three cases of mediastinal tumors were encountered in this review. In 1 case the diagnosis has not been definitely established, there being a difference of opinion between two of our leading authorities on the subject. One has classified it as a liposarcoma, the other as a thymoma. In view of this, we shall just mention it in passing. The other 2 cases are teratoma of the mediastinum and primary carcinoma of the thymus gland.

Ewing<sup>20</sup> describes a teratoma as a tumor composed of tissues and organs of one, two, or three germinal layers as monodermal, bidermal, or tridermal types. Boyd<sup>11</sup> says, "It is an attempted formation of a new individual within the tissues of the patient. A malignant growth how ever may develop in a teratoma. It is discussed here among the malignancies because of its high mortality and because it is potentially malignant."

The occurrence of a tumor in the mediastinum and not originating from the normal mediastinal structures is rare and particularly so in children. Hedblom,<sup>22</sup> reviewing the literature and with his own 6 cases included, brought the number of cases of intrathoracic dermoid cysts and teratoma to 191. Houghton<sup>23</sup> in 1936 raised the total number to 216.

Intrathoracic dermoid cysts and tera-

tomas are especially rare in children. In 1924 Smith and Stone<sup>21</sup> searched the literature and accounted for 10 cases in children under 12 years of age. Wilcox and Wollstein<sup>24</sup> in 1931 reported a case of mediastinal teratoma containing tissues of the three germinal layers and brought the number of cases under 12 years of age to 14. Eight of these cases were in children under 5 years of age, while 6 were dermoids and 8 teratomas. In these reviews, the case of Smith,<sup>21</sup> a dermoid cyst in the mediastinum of an infant, was not included and therefore the number should have been 15. Hedblom's report in 1933 included 22 cases of intrathoracic cysts and teratomas in children under 12 years of age. Since then cases of mediastinal teratoma in children have been reported by Lawrence and Herzberger<sup>25</sup> and by Wheatley,<sup>26</sup> the latter case being the one included in this series of malignancies. The infrequency of this condition can thus be appreciated.

**Symptoms**—Those that are due to pressure on neighboring structures, as cough, dyspnea, asthma, and cyanosis.

**Diagnosis**—Established by the aid of the x ray, which in addition to the mass

at times shows areas of calcification in the lungs (Fig 8) Examination of the aspirated fluid and thoracotomy confirm it At times it is difficult to differentiate it from an empyema

*Prognosis*—Bad The mortality rate is extremely high

*Treatment*—Since the teratoma is potentially malignant, it should be completely extirpated whenever possible

### Primary Carcinoma of the Thymus

Primary carcinoma of the thymus is a relatively rare disease and especially so in children It is its rarity in childhood that prompts me to make a brief comment

H A, a female child 2 years of age, was admitted to the ward on July 28, 1932, with the complaint of dyspnea, cough, and prominence of the chest wall At the age of 3 months the child gave a history of breath holding and cyanosis X-ray at that time revealed an enlarged thymus for which radiotherapy was given On June 1, 1932, eight weeks before admission, her mother noticed that the anterior chest was prominent and that the child had dyspnea and cough X-ray on July 1, 1932, showed an enlarged thymus (Fig 9) X-ray therapy was again instituted but the child became progressively worse and was admitted to the hospital on July 27, 1932 (Table 9)

Physical examination showed a well-developed and nourished female child, 2 years of age, breathing noisily both on inspiration and expiration with an inspiratory dilatation of the alae nasi and retraction of the lower intercostal spaces Pigeon breast deformity and slight cyanosis of lips and cheeks were also noted A diagnosis of mediastinal tumor was made The child died one week after admission Necropsy report Primary carcinoma of the thymus gland

Crosby<sup>36</sup> in 1932 made an extensive and thorough search of the literature on malignant growths of the thymus gland and was able to collect 166 cases in all Forty-four of these were classified as carcinomas and 122 as sarcomas His



FIG 9 Roentgenogram showing primary carcinoma of the thymus gland

review is even more startling when one notes that only 3 cases of primary carcinoma of the thymus occurred in children under 13 years of age The survey showed that carcinoma of the thymus usually occurs after the age of 40 During the same year, Symmers<sup>37</sup> reported 25 malignant growths of the thymus and not a case under 13 years of age was found Slesinger<sup>38</sup> in 1936 brought the total number of cases of primary carcinoma of the thymus to 53 Touroff's<sup>39</sup> case of primary carcinoma of the thymus in a child brought the total in children up to 4 Since then no other case has been reported in childhood With this case, which has been briefly presented here, the number of primary carcinomas of the thymus under 13 years of age has been extended to 5

### Carcinoma of the Liver

Primary carcinoma of the liver in infancy and childhood is a relatively rare and rapidly fatal disease Death usually occurs within three to four months following its recognition Its rarity can be appreciated when one learns that up until 1933 only 100 cases were reported in the literature<sup>22</sup>

In this review, 2 cases of primary carcinoma of the liver were encountered

Both were males, 10 months of age and the other 11 years

**Symptoms**—As seen in Table 10, the outstanding symptoms were enlarged abdomen, loss of weight, fever, vomiting abdominal pain, cough, and chest pain

While metastasis is not a very common occurrence it occurred in the lungs in 1 of the cases.

**Diagnosis**—Established by physical examination, operation, and pathologic report.

**Prognosis**—Grave The patient usually dies within a few months after recognition

**Outcome**—Both of the cases died within this period of time.

### Carcinoma of the Ovary

While ovarian tumors in children are seen more often during the second decade of life, that is, about the age of puberty and just after, cases have been reported during the first decade and even as early as in a 7-month fetus.<sup>40</sup> Tumors of the ovary comprise about 1 per cent of all tumors in children.<sup>21</sup>

Loeb and Levy,<sup>41</sup> in reviewing the literature up to 1931, brought the number of cases of ovarian cysts and tumors in children under 10 years of age to 115. Of these, 10 were listed as primary carcinoma of the ovary and 16 as carcinoma or sarcoma. Of the 64 cases surveyed here, 2 cases of primary carcinoma of the ovary were observed. In 1 of these children the condition was recognized at 2 years of age and in the other at 9

**Symptoms**—The child as a rule is not brought to the physician until the abdomen becomes enlarged or until a mass is perceptible. As shown in Table 10, this enlargement may be accompanied by vague abdominal pain, loss of weight, anorexia, and fatigue. While it was not noted in these 2 cases, sexual precocity (adult distribution of hair, enlargement of the breasts and external genitalia, and menstruation) may be present as a result of ovarian tumors.

**Metastasis**—From Table 10 it is obvious that these tumors metastasize to

TABLE 10—PRIMARY CARCINOMA OF THE LIVER  
(2 CASES)

|                                 | No. of Cases |
|---------------------------------|--------------|
| 1 Age and sex incidence         |              |
| 1-10 months of age              |              |
| 1-11 years of age               |              |
| Males                           |              |
| 2 Symptoms                      |              |
| a—Enlarged abdomen (palp. mass) | 2            |
| b—Loss of weight                | 2            |
| c—Fever                         | 1            |
| d—Vomiting                      | 1            |
| e—Abdominal pain                | 1            |
| f—Cough                         | 1            |
| g—Chest pain                    | 1            |
| h—Ascites                       | 1            |
| 3 Metastasis—lungs              |              |
| 4 Treatment—operation (2)       |              |
| 5 Prognosis—very bad            |              |
| 6 Outcome—both died             |              |

PRIMARY CARCINOMA OF THE OVARY (EMBRYONAL)  
(2 CASES)

|                                       |   |
|---------------------------------------|---|
| 1 Age and sex incidence               |   |
| One between 2 and 3 years             |   |
| One between 9 and 10 years            |   |
| Females                               |   |
| 2 Symptoms                            |   |
| a—Fatigue                             | 1 |
| b—Poor appetite                       | 1 |
| c—Abdominal pains                     | 1 |
| d—Loss of weight                      | 2 |
| e—Enlarged abdomen                    | 2 |
| 3 Metastasis                          |   |
| a—Lungs                               |   |
| b—Lymph nodes                         |   |
| c—Abdominal organs                    |   |
| d—Left ovary                          |   |
| 4 Prognosis—bad                       |   |
| 5 Treatment—operation and irradiation |   |
| 6 Outcome—death                       |   |

the lymph nodes, the ovary, abdominal organs, and lungs

**Diagnosis**—Arrived at by careful physical examination, operation, and microscopic examination of the operative specimen. When signs of premature sexual development are present, there three other conditions that must be ruled out: tumors of the suprarenal cortex, of the pineal body, and of the third ventricle. The latter two can be excluded by the fact that they are almost always found in the male, by encephalography and by the absence of a mass in the abdomen. The other can be differentiated by the male type of sexual precocity. If it occurs in a female the masculine characteristics manifest themselves as hypertrichosis, change in voice, and hypertrophy of the clitoris.

**Treatment**—Consists in complete extirpation as early as possible before metastasis has occurred and postoperative irradiation. Unfortunately, this was done in both cases after metastasis had set in.

TABLE 11—FIBROSARCOMA OF THE PHARYNX (1 CASE)

|  |  |
|--|--|
| 1  | Age and sex incidence<br>5 years of age<br>Female  |
| 2  | Symptoms<br>a—Swelling of the left jaw<br>b—Sore throat<br>c—Difficulty in breathing and swallowing<br>d—Internal strabismus (left)<br>e—Foul breath<br>f—Loss of weight |
| 3  | Metastasis<br>Cervical lymph nodes   |
| 4  | Treatment<br>a—Tracheotomy<br>b—Radium<br>c—X-ray  |
| 5  | Outcome<br>Patient died five months after illness  |
| PRIMARY CARCINOMA OF THE THYROID GLAND<br>(1 CASE) |  |
| (A rare disease—18 cases reported to date)         |  |
| 1  | Age and sex incidence<br>11 years of age<br>Male   |
| 2  | Symptoms<br>a—Mental and physical retardation<br>b—Hoarseness<br>c—Difficulty in breathing   |
| 3  | Prognosis<br>Fair if surgery with the aid of irradiation is resorted to early  |
| 4  | Treatment<br>a—Subtotal thyroid resection<br>b—Radiotherapy  |

The question of postoperative irradiation is still a debatable one, the fear of ovarian hypofunction being the issue. I believe the more popular view is to irradiate all cases of malignant tumors of the ovary in children.

*Prognosis and Outcome*—As a rule grave, but if the condition is detected early and before it metastasizes the outlook will be much brighter. Of the 2 cases under discussion, 1 died four months after recognition of the disease and the other died four years after first operation and x-ray therapy.

### Primary Carcinoma of the Thyroid

Primary carcinoma of the thyroid in children under 14 years of age is not a common occurrence. It is more commonly seen in females than in males. In Pemberton's<sup>42</sup> series the proportion was 2:1 in favor of females. The case reported here occurred in an 11-year-old boy.

E. C. was admitted to the hospital on March 3, 1933, with the complaint of a mass in the neck since birth, which had become progressively larger. With this he also gave evidence of being physically and mentally retarded. Hoarseness was present since birth but was more pro-

nounced during the past two years. A slight difficulty in breathing was also present (Table 11).

The patient had had three previous operations for goiter at 6 months, 7 years, and at 9 years of age.

Physical examination revealed a large swelling in the neck, occupying practically the entire anterior region. The mass was firm and nodular. On March 25, 1933, a subtotal thyroid resection was performed.

The patient expired on March 28, 1938.

*Pathologic report* Multiple adenocarcinoma of thyroid, probably of fetal origin.

Kennedy<sup>43</sup> in 1935 searched the American literature for twenty years and found 6 cases in which carcinoma of the thyroid gland affected children. To these he added his own 8 cases, bringing the total to 14. In 1937 Hare<sup>44</sup> reported 3 additional cases of carcinoma of the thyroid in children under 13 years of age and brought the number to 17. The case reported herewith makes the total 18.

*Prognosis*—As a rule, carcinoma of the thyroid in children is of low malignancy, growing slowly and metastasizing after a long period of time. It is also peculiarly radiosensitive. These factors all point to a favorable prognosis. Of the 8 cases reported by Kennedy, 7 were known to be alive after having the disease from two years to thirteen and one-half years.

*Treatment*—Consists of surgery and radiotherapy.

### Fibrosarcoma of the Pharynx

Although cases have been reported in childhood, sarcoma of the pharynx is not a very common disease in children. The tumor may begin either in the nasopharynx within the tonsillar tissue or from the pillars and spread downward. Regardless of age, a unilateral enlargement of a tonsil should cause one to suspect the possibility of a malignancy. The disease may remain within the tonsil for a variable period of time and then break through the capsule and spread to the

neighboring glands and thus render the outlook grave (Table 11)

The case under discussion occurred in a female child of 5 years of age. Apparently the growth had begun in the tonsil, for prior to admission to our hospital a tonsillectomy had been performed at another institution. Soon after that the condition became progressively worse, and despite radium treatment, the child died five months after onset of the disease.

#### General Outcome

Unfortunately, 22 cases (35 per cent) were lost to observation. However, a study of the 42 known cases reveals that 1 embryonal adenomyosarcoma is alive today apparently cured, five and one-half years following nephrectomy and another was last seen two and one half years after operation, living and well. The case of Ewing's tumor of the ulna is enjoying good health today, seven and one-half years after treatment was started. Since the cases of the giant cell tumor and cyst of the third ventricle, although still alive, are not malignancies, they are not included among the survivals of malignant disease. Only 3 cases therefore, have survived beyond two and one half years. Seven additional cases, which were clinically diagnosed as malignant, were not admitted to this group because of a lack of confirmatory microscopic examination. It is obvious therefore, that the mortality rate would have been much higher.

#### Summary

1 A study of 64 cases of malignancies in infants and older children is made. All were confirmed by a study of the gross pathologic findings at operation as well as by microscopic examination of tissues obtained from biopsies and necropsies.

2 The various types of malignancies, the age and sex incidence, signs, symptoms, course, and treatment are discussed.

3 Forty six, or 72 per cent, of the cases were encountered during the first 5 years of life.

4 The cases were about equally divided between both sexes, 35 being males and 29 females.

5 Tumors of the kidney and adrenal led in the order of frequency, with those of the eye, bones, brain, retroperitoneal glands, mediastinum, liver, ovary, pharynx, and thyroid gland following in the order named.

6 Wilms type of kidney tumor was the most common neoplasm in infancy and childhood.

7 Such rare conditions as primary carcinoma of the kidney, thymus, and thyroid, mediastinal teratoma, and cyst of the third ventricle with pubertas praecox in a female child are discussed.

8 Of the 64 cases, 22 were lost to observation, and of the 42 known cases, only 5 are known to be alive today (2 of which are not malignant).

9 Seven cases that were clinically diagnosed as malignant were not included because of lack of pathologic confirmation.

10 Death rate, therefore, must be higher than that recorded.

#### Conclusions

Since it has been demonstrated in this study, even though the number is very small, and by others that children can survive malignant disease if recognized early and radiotherapy is applied either alone or combined with surgery, the disease should not be regarded as entirely hopeless. Another encouraging feature is the fact that such neoplasms as the Wilms tumor of the kidney (the most common), endothelial myeloma, and carcinoma of the thyroid are radiosensitive. Recent advances in the application of radiotherapy and early recognition of the disease offer the best hope of decreasing this frightfully high mortality rate.

The author is indebted to Drs John Frederick Erdmann, Chas Gordan Heyd, and Henry H Ritter for the case that they each contributed to the departments of pathology and roentgenology for their cooperation in the collection of the pathologic specimens and roentgenograms and to Dr Adolph G De Sanctis, director of the pediatric service.

115 East 80th Street



## References

- 1 Picot Rev med de la Suisse Rom, quoted by Campbell Pediat Urology 9 p 225
- 2 D'Espine and Piso quoted by Porter and Carter, W E Am J Dis Child 20 323
- 3 Helmholz H F Proc. Inter Assemb Interstate Post-Grad M A. North America, p 209 (Oct.) 1931
- 4 Duzan quoted by Dean and Pack J A M A 10 98 (1932)
- 5 Steffen O T Schultz Tumors of Infancy and Childhood Abt's Pediatric Textbook, W B Saunders, & Co
- 6 Wollstein, M Arch of Path and Lab Med. 1927 31
- 7 Mixter Charles Ann Surg 96 (1932)
- 8 Abt I Tumors of Infancy and Childhood, Abt's Pediatric Textbook, Vol 8
- 9 Walker Ann Surg 26 529 (1897)
- 10 Kilbane and Lester Surg Gynec. & Obst. 49 710-715 (Nov.) 1929
- 11 Boyd W Text Book of Pathology Lea & Febiger Philadelphia 1934
- 12 Pepper Am J M Sc 121 287 (1901)
- 13 Hutchinson Quart J Med 1 33 (1907-1908)
- 14 Campbell M F J A M A. 13 (Nov.) 1937
- 15 Lehman, E P Ann Surg 95 473 (1932)
- 16 Gallard Thèse de Paris quoted by Philip and Salin
- 17 Ewing J Neoplastic Diseases W B Saunders & Co, 1922, p 749
- 18 Verboeck quoted by C Berens W B Saunders & Co, Philadelphia, 1930
- 19 Berens, C. The Eye and Its Diseases W B Saunders & Co, 1930
- 20 Ewing, J Neoplastic Diseases, 1928 p 360
- 21 Holt and McIntoe Diseases of Infancy and Childhood Appleton Century & Co 1932
- 22 Griffith and Mitchell Diseases of Infants and Children, W B Saunders & Co., 1937
- 23 Bailey and Cushing A Classification of Tumors of the Gluoma Group, Philadelphia 1920
- 24 Haldeman Arch Neurol & Psychiat 18 724 (1927)
- 25 Harrox, G Arch Neurol & Psychiat 13 423 (1925)
- 26 Harrox, G Arch Neurol & Psychiat 35 216 (Feb.) 1937
- 27 Weiland, E (Macrogenitosomia Praecox in a 4-Year-Old Boy with Cancer of the Third Ventricle and Intact Pineal Gland), Praxis No 2 17, 13 (Jan. 10) 1928.
- 28 Bailey, P Intracranial Tumors, Charles S Thomas Publisher, Springfield Ill 1933 p 331
- 29 Hedblom, C A. J Thoracic Surg 3 22 (Oct.) 1933
- 30 Houghton, J D Am J Path 12 349 (1936)
- 31 Smith and Stone J S Ann Surg 79 687 (May) 1924
- 32 Wilcox H. B and Wollstein M Am J Dis Child. 41 89 (Jan.) 1931
- 33 Smith, R. B Dermoid Cyst in Med of Infant Guy's Hospital Rep 80 466 (Oct.) 1930
- 34 Lawrence and Herzberger Am J Dis Child. 51 856 (April) 1938
- 35 Wheatley, George B Am. J Dis. Child 54 1057-1085 (Nov.) 1937
- 36 Crosby, E H Am J Cancer 16 461 (1932)
- 37 Symmers, D Am J Surg 95 544 (1932)
- 38 Slesinger H A. J Lab & Clin Med 22 151-155 (Nov.) 1936
- 39 Touroff A S W J Mt Sinai Hosp 1 17-19 (1934)
- 40 Abt Pediatric Textbook Vol 8, page 549
- 41 Loeb and Levy Arch of Pediat 49 (Oct.) 1932
- 42 Pemberton, J DeJ Ann Surg 87 369 (1928)
- 43 Kennedy R. L J J Pediat 7 631 (1935)
- 44 Hare H F Radiology 28 131-143 (Feb.) 1937

## Discussion

Dr Albert Preston Knight, *Waverly*—Dr Scotti is to be congratulated upon the selection of his subject particularly because of the difficulty in diagnoses, of the unavoidably bad prognosis, and of the usual hopelessness of any treatment. His fine, careful, scientific research, and his splendid "follow-up" of this interesting group, together with his courage in presenting a group of cases whose mortality is so distressingly

high deserves the highest commendation His fine paper offers a hope that a technic may be developed by others than himself, by which, through early diagnosis, a lowered mortality may be obtained The very vagueness of the early symptoms, or even the absence of them, may be considered a reason for the oversight of these neoplasms, and Dr Scotti's paper is bound to induce a consciousness of the possible meaning of such signs and symptoms which cannot be correlated with the simpler diagnoses

His observation, in this series of cases—that the highest incidence of occurrence of these neoplasms is found in the third year of life—is extremely interesting, particularly since this is the period in which the general practitioner or even the pediatrician sees but little of the child, his infant-feeding period is over, and his contact with contagion and accidents has not yet begun, hence the opportunity for close observation for neoplastic development is markedly decreased just at the point wherein an early diagnosis is so notably important and so liable to be missed completely It requires the development of a "tumor-consciousness" and the retaining of that consciousness which will be of most help in the search for these rare, but so vitally important conditions

It has been my fortune, good or otherwise, during the past week to see a possible sarcoma of the uterus upon our pediatric service at the Robert Packer Hospital in Sayre Since it falls in this particular class of cases, which Dr Scotti has presented, I beg to presume to discuss our findings as indication of the very points which Dr Scotti has brought out so ably in his paper

A little girl, aged 9 years, was admitted to the service for study on May 1, 1938 The chief complaint was a mass in the lower abdomen pain on urination, and pain in the lower abdomen About the 19th of March, only six weeks ago, the child complained for the first time, of a sense of fullness after eating a usual meal, and there was noted an increased irritability Upon the morning of April 19, 1938, she was seized with a sudden severe pain just above the pubis, which continued throughout the day, and which was thought by the mother to be due to constipation and for which she was given an enema. At this time the mother noted the mass in the lower abdomen, and thought it was due to a distended bladder but observed that following micturition, the size of the mass failed to decrease. She was seen by her local doctor four days later, and was admitted to the local hospital, not our institution, for study The report from this hospital reached us that there was found a well-defined, firm, tender suprapubic mass,

extending four fingers above the umbilicus in the midline, and it was symmetrical in outline. The child's temperature was 100 F. She was catheterized and there was no alteration in the size of the mass. The following day the cervix was dilated and four ounces of dark bloody fluid was lost and the uterine cavity was found to be enlarged. Following dilatation of the cervix the mass increased in size. Other points in the history were as follows: (1) that she complained of headache and pressure in the temporal regions about six weeks ago and was fitted with glasses; (2) that she had lost about 10 pounds in the past month; (3) that she complained of a sense of fullness after eating and that constipation had developed since her first hospitalization; (4) that she has cramp-like pains in her lower abdomen when urinating; (5) easily disturbed nervously; (6) an interesting point in the family history is that the mother had an ovarian dysfunction.

Following admission to our service the outstanding points in the physical examination were as follows: Temperature 101.2 F. rectal pulse 128, respiration 22. Dry and hot skin. Irritable but cooperative. Slight adenoma of thyroid gland. No abnormal breast development or secondary sex characteristics. Physical examination of thorax was negative for pathologic findings. In the abdomen there was a pyriform mass, lying in the midline, and symmetrical above the symphysis and extending upward to the umbilicus. The tissue over this area was very tender associated with a slight rigidity and a slight tenderness in the costo-vertebral angles. On rectal examination one noted a firm mass 10 cm. above the anal ring which was quite hard and the whole area was exquisitely tender.

A cystoscopic examination was done, and proved negative for any pathologic findings.

The roentgen report noted a midline abdominal tumor mass arising from the pelvis, probably an enlarged uterus. The report upon the lung fields showed no pathologic changes.

The laboratory tests showed the following points of interest: the Friedman's test was positive in normal concentration of urine; the urinary studies were constantly negative except for a slight trace of albumen; the Kahn test was negative; the tuberculin reaction was negative; and the blood chemistry showed no particular change from the normal figures. No marked secondary anemia was observed, though the white cell count was 19,700 with a differential count of 88 per cent polymorphonuclears and a lymphocyte count of 12 per cent.

On May 5 1938 a laparotomy was done. In the midline, in the lower abdomen there was a

pyriform mass the anterior surface of which was adherent to the anterior abdominal wall. These adhesions were freed with much difficulty and on entering the peritoneal cavity there was found a mass extending upward from the cervical region of the uterus contiguous with this organ and completely masking it. Its anterior surface was somewhat rough, and had many bleeding points from the freeing of the adhesions; it was somewhat soft in consistency though the mass itself was not particularly vascular since there was but little bleeding when it was incised for a specimen for biopsy. Anteriorly the bladder was adherent as were loops of small bowel upon the proximal surface, with adhesions of both ascending and descending colon upon either side. Marked vascularity with distended veins laid on either side of the mass which together with the adhesions made mobilization and removal impossible.

A biopsy was done and frozen sections were made followed later by paraffin sections, which showed sarcoma to be present in which degeneration had begun. This one section was taken from the anterior surface of the mass and indicated only the tissue available for biopsy in that region, hence a complete pathologic diagnosis is impossible until autopsy permits study of the entire mass with its possibilities of teratoma with sarcomatous degeneration as a further consideration.

The abdomen was closed and the patient returned to the ward in good condition. Except for a slight postoperative rise in temperature she is progressing nicely as far as the laparotomy itself is concerned. Deep roentgen-ray therapy is to begin as soon as the abdominal wound is healed, with the hope of alleviation of some of the symptoms which are bound to develop. Further studies of the case are to be done and reported later.

It is felt that the history of this case definitely illustrates the vagueness of the signs and symptoms early in the development of the tumor mass and emphasizes the need for a tumor consciousness which Dr. Scotti has brought to our attention.

Dr. Alfred F. Hocker, New York City—Dr. Scotti's paper is a timely one because it impresses us with the fact that cancer is not only a disease of advanced age but occurs also in infancy and childhood. Although the pediatrician sees relatively few cases of cancer in his practice a paper on the subject tends to make him more alert to its possibilities and thereby to recognize the disease in an earlier stage. Dr. Scotti has tersely stated the end results obtained by the best accepted methods of treatment employed during

the past few years. They conform with those of other observers and the only conclusion we can make is that they have been uniformly poor.

Surgery has practically reached the limit of its possibility in the cure of cancer in the young. X-ray therapy is less static and with the improvement in equipment and, the technic of administration, offers, either alone or in combination with surgery, some hope for the cure of certain types of the disease. If cure cannot be obtained then I am certain that the benefit in prolonging life comfortably is substantial.

One feature common to tumors of children is that the localities in which they originate are different from those affected by neoplasms of adults. For example, the great proclivity of infants and children to malignant tumors of the kidney and eye is in marked contrast to the rarity of tumors of these organs in adults. The data presented by Dr. Scotti furnishes evidence of the unusually high incidence of renal tumors in children.

For many years the primary treatment of Wilms' tumors has been by nephrectomy alone or nephrectomy supplemented by pre- and post-

operative x-ray therapy. Because recurrences are so frequent after operations, Dean, Ferguson, Alcock, and others believe that this treatment should be discarded.

Due to the radiosensitivity of Wilms' tumors, which depends on its congenital origin, embryonal structure, and unstable vascularity, x-ray therapy alone is now becoming the treatment of choice. Cases treated in the past few years by new and improved technics of irradiation have shown encouraging results in the hands of several observers. Dr. Walter McNeill reported on a patient with Wilms' tumor at the last meeting of the American Urological Association who was treated in September, 1934, and who is still alive at the present time without evidence of disease. Alcock has 2 cases which have survived over four years and Dean has recently declared that irradiation alone is the treatment which will be pursued in the future.

These immediate results are at least encouraging and point out that continued study and further improvements in x-ray technic may produce a more uniform and favorable survival rate in the treatment of Wilms' tumors.

The Forty-first Annual Meeting of the Medical Library Association will be held June 27-29, 1939, at the Academy of Medicine of Northern New Jersey, 91 Lincoln, Park, Newark. The program will include addresses, discussions, and demonstrations on library procedure, medical history, and literature.

This association consists of about 250 of the medical libraries of this country and Canada, together with their librarians and a group of supporting members who are chiefly physicians in-

terested in medical literature and libraries. The officers of the association are as follows: president, Mr. James F. Ballard, Boston; vice president, Dr. George R. Minot, Boston; secretary, Miss Janet Doe, New York; treasurer, Miss Louise D. C. King, Baltimore; chairman of executive committee, Miss Marjorie J. Darrach, Detroit.

Everyone who is interested in a wider knowledge of medical literature and in the development of medical libraries is invited to attend.

Deaths of New York State Physicians

| Name                 | Age | Medical School                             | Date of Death | Residence      |
|----------------------|-----|--|---------------|----------------|
| Frank J. Alessi      | 34  | Buffalo                                    | January 10    | Niagara Falls  |
| James R. Bolton      | 79  | N. Y. U.                                   | February 24   | Beacon         |
| Day, La Mott         | 76  | N. Y. U.                                   | March 7       | West Henrietta |
| Ebenezer R. Faulkner | 62  | M. R. C. S. London,<br>F. R. C. S. England | May 29        | Manhattan      |
| Samuel Peskin        | 65  | N. Y. U.                                   | May 23        | Manhattan      |
| Henry G. Peter       | 44  | N. Y. Hom.                                 | May 21        | Glendale       |
| Isidor Shulman       | 54  | L. I. C.                                   | May 10        | Brooklyn       |
| Alvarez H. Smith     | 73  | N. Y. U.                                   | May 22        | Brooklyn       |
| Thomas Stone         | 84  | P. & S.                                    | May 19        | Manhattan      |
| William Stubenbord   | 86  | N. Y. U.                                   | May 23        | Manhattan      |
| Hugo von Dessauer    | 60  | L. I. C.                                   | January 2     | Brooklyn       |
| William L. Wheeler   | 65  | P. & S.                                    | May 22        | Manhattan      |
| U. Grant Williams    | 76  | Syracuse                                   | May 14        | Newport        |

HOUSE OF DELEGATES  
MINUTES OF THE ANNUAL MEETING  
[Continued—see page 1246 for index]

April 24 and 25, 1939

Evening Session

Monday, April 24, 1939

The session reconvened at 8 30 o'clock.  
SPEAKER FLYNN The House will be in order  
Is there a quorum present Mr Secretary?  
ASSISTANT SECRETARY PODVIN There is

58. Amendments to Constitution and Bylaws  
Sections 15 87

SPEAKER FLYNN The first order of business  
this evening is certain amendments and revisions  
to the Constitution and Bylaws which are before  
you for action. I am going to ask Dr Podvin  
the Assistant Secretary to read the first section

*Change of Dues Year*

*Bylaws—Chapter I Section 2*

ASSISTANT SECRETARY PODVIN This first  
change in the Bylaws merely refers to changing  
the date of the fiscal year and so it has no relative  
importance as to change of meaning of the By  
laws except the changing of dates. It reads as  
follows

CHAPTER I SECTION 2

Add to (a) new sentence following the words  
and payable

The dues year shall coincide with the  
fiscal year July 1st to June 30th of the  
succeeding year "

That part in the old constitution reads

The term 'good standing' is hereby defined  
as (a) A member is in good standing when his  
dues to his County Society and the assessment  
of the State Society have been paid when they  
are due and payable

and you add to that

'The dues year shall coincide with the fiscal  
year July 1st to June 30th of the succeeding  
year

The second change

"Change (b) first sentence by deleting the  
words May 31' and inserting the words De-  
cember 31st,' making it read

A member whose dues and assessments are  
unpaid after December 31st of any current  
year is not in good standing '

It is the same sentence as appears in the present  
Bylaws, only a change of date.

The third change

'Change (c), first sentence, by deleting the  
words December 31' and inserting the words  
June 30th, and making it read

A member whose dues and assessments are  
unpaid after June 30th of any current year  
shall automatically be dropped from the  
rolls of membership

Add a new portion to be known as (d) to read  
as follows

'The change of the dues' year shall first  
become operative on July 1st, 1940 pro-  
vided, however that County dues and State  
assessment shall be paid at half the annual  
rate for the six months period January 1st  
1940 to June 30th 1940 the full regular  
annual rate to be paid thereafter as herein  
before provided '

You see that is to make the change in the fiscal  
year beginning July 1 so that in 1940 we will pay  
half dues for the first half of the year and then  
full dues for the last half and for the first six  
months of the next year

In the event of the adoption by the House of  
Delegates of the foregoing sentences, (a) (b)  
(c) and (d) it will be necessary to change the  
following previously suggested amendment  
(d)

Dues and State assessment of a member  
elected or reinstated after November 1st  
shall be credited to the ensuing calendar  
year all rights and privileges of member-  
ship, however dating from the time of elec-  
tion,

to read as follows

(e) Dues and State assessment of a mem-  
ber elected or reinstated after May 1st shall  
be credited to the ensuing calendar year  
all rights and privileges of membership  
however dating from the time of election.

'In the event that the amendments changing  
the dues' year should not be adopted, there  
would still be before the House for action the  
previously suggested amendment to Section 1  
which would become sentence (d) allowing  
dues collected after November 1st to be  
credited to the ensuing calendar year

That is submitted by the Council, and I as-  
sume is before the House for adoption. I so  
move.

The motion was seconded.

DR. MERWIN B MARSLAND Westchester I  
raise the question about the wording of this  
amendment where it speaks of reinstatement af-  
ter May 1 being credited to the ensuing calen-  
dar' year Is it the intention there to say to the  
ensuing fiscal year?

DR. JAMES F ROONEY, Albany I think Dr  
Marsland is quite right, because the intention of  
the Board of Trustees was that all of the dues  
collected after May 1 in the event of the adop-  
tion of these amendments, was to be credited to  
the ensuing fiscal year not the ensuing calendar  
year In conformity with our present procedure  
where the fiscal year runs from January 1 to  
December 31 and where all dues collected after  
November 1 of that calendar year are credited to  
the ensuing calendar year this wording should be  
changed to read the ensuing fiscal year on  
members elected or reinstated after May 1 and  
not the ensuing calendar year

DR. WALTER D. LUDLUM, *Kings* I also agree with that statement.

DR. LEO F. SCHIFF, *Chilton* I move that Section (e) be amended by substituting the word "fiscal" for the word "calendar" in referring to the year.

The motion was seconded, and as there was no discussion, the motion was put to a vote, and was unanimously carried.

SPEAKER FLYNN Is there a desire to adopt (a), (b), (c), (d), and (e) en bloc, or would you desire to take each one separately? They all pertain to the same subject, the changing of the fiscal year.

DR. JAMES F. ROONEY Yes, just the necessary changes to make effective a fiscal year running from July 1 to June 30. I think the members may be interested to know why the proposal was made that the fiscal year be changed. The reason for it is this: All officers take office immediately after the Annual Meeting of this Society, which usually occurs in the late spring months, in contradistinction to the old procedure of the Society, which is a heritage from the old Medical Society of the State of New York before the consolidation of the Association and Society, which the Society was obliged to meet in January of every year concurrently with the Legislature for the supposed effect upon legislative opinion, and all the meetings had to be held in Albany. At that time it was perfectly all right to run the fiscal year from January 1 on because the meeting was always held before the third week in January, and when those officers took over it meant a very easy financial adjustment from January 1 to December 31. After the consolidation, after the breakup and consolidation of the old Society and, shall one say, withdrawing Association due to a rift at that time, the meetings were held in the spring, but there has been no change made in the Constitution or Bylaws to adjust the fiscal year in conformity with the change of the time of meeting, so that our treasurer's report and all the rest of the financial affairs of the Society have been running on two bases: a fiscal year ending December 31 and an annual year beginning usually the 1st of June.

In order to adjust those differences the Trustees felt that they should be brought into conformity, and they suggested that the fiscal year run from July 1 to June 30. It is going to make it very much easier for accounting purposes, for the audit, for the conduct of the financial affairs of the Society, and for a better understanding on the part of the membership. All of these proposed amendments are merely one, embodying the necessary changes in various portions of the Constitution and Bylaws relating to the fiscal year. I move you, Mr. Speaker, therefore, that the House consider all of these amendments as one amendment, and that we vote on the matter as a whole.

The motion was seconded, and as there was no discussion, the motion was put to a vote, and was unanimously carried.

#### *Component County Medical Societies—Policies Bylaws—Chapter XV Section 89*

SPEAKER FLYNN The next is a proposed amendment to Chapter XV of the Bylaws.

ASSISTANT SECRETARY PODVIN Also submitted by the Council:

"Amend by adding a new Section 7 to read  
"The component County Medical Societies, their officers, committeemen, and members shall not initiate any policy, propose any legislation or participate in any activities that are contrary to the policies of the Medical Society of the State of New York. This shall not be interpreted to prevent a component County Society from initiating any policy applicable to the profession within its boundaries and within the framework of adopted policy of the Medical Society of the State of New York."

SPEAKER FLYNN You have heard this proposed change read to you by the Assistant Secretary. What is the pleasure of the House of Delegates?

DR. ARTHUR S. DRISCOLL, *Richmond* I move the adoption of the proposed change.

The motion was seconded.

SPEAKER FLYNN It is now open for discussion.

DR. GEORGE BAEHR, *New York* This impresses me, Mr. Speaker, as a gag rule which will do the Medical Society of the State of New York no good.

DR. LAURANCE D. REDWAY, *Westchester* Mr. Speaker and Gentlemen of the House of Delegates: There is before this House for your consideration a new section, being an amendment to Chapter XV, Section 7, of the Bylaws of the Medical Society of the State of New York.

You have read it, probably, with the same amazement as we in Westchester: amazement that the honorable Council of the State Society could presume to ask men of intelligence to squander their time in the serious consideration of a measure which would gag their utterance, stifle their opinions, and limit their thinking. This is an amendment which would confine to the limits of county concentration camps the thoughts and activities of the various County Societies, their officers, committeemen, and members. Is this a State Medical Society or a Bund?

It can't happen here? We, of Westchester, say it *has* happened here. Before your eyes is the evidence, a measure, which, gentlemen, would replace the free and untrammelled processes of American democratic practice by the strangulation of authoritarian rule, in this Society, in the State of New York. The honorable Council of the Medical Society of the State of New York has the effrontery to ask you to confer that power upon it.

But that is not the worst, gentlemen. Degradation and vicious as the measure is, insulting to your ideals and intelligence as is the fact that you are being asked even to consider it, far worse in its ultimate effects and implications is the fact that it could have been written at all.

Who in this honorable Society, or what group, is responsible? That, gentlemen, is important. It is a foregone conclusion that you will defeat the measure—I hope unanimously. But you will not thereby have altered the fact that within the Medical Society of the State of New York some, some group inoculated with the virus of authoritarian power has conceived it, has openly coveted the abridgment of your constitutional right of free speech and liberty of action. Some person, some group of sufficient persuasiveness has prevailed upon the honorable Council of this Society

to place this blot upon the otherwise proper agenda of last year's and this year's meeting displaying to the public contempt on the record this measure in all its vicious and degrading implications of suspicion fear and neurotic excitement

If this has happened once. It can happen again. We, of Westchester, call upon you gentlemen not only to defeat the measure but to conduct an inquiry into its origin. We call upon the Speaker of the House to require a rising vote on this measure that we may all ascertain the extent if any and the locality, if such there be, wherein the support of such an undemocratic and disgraceful proposal may be found (Applause)

DR. WALTER P. ANDERTON *New York* I move you the question

SPEAKER FLYNN The question is called for. Those in favor of the previous question say Aye, those opposed No. The motion is lost.

DR. JAMES F. ROONEY I think what my friend, George Bachr, has just said and what my friendly enemy Redway who has taken me over the coals within the last year for maligning misinterpreting and misrepresenting everything in relation to a question that came before the last House is quite correct. I think as this amendment is worded it would be a most unfortunate thing if we put it in our Constitution and Bylaws. I believe the intent of this thing is quite correct however. That intent is this, and I can speak from experience. This Society has had great trouble in the legislative halls for many years by self-constituted representatives of Medical Societies and supposed groups in Medical Societies appearing at legislative hearings and representing the fact that they spoke for the Medical Society when they did not speak for anything of the sort. There is nothing that can abridge the right of any citizen in the United States to petition any Legislature or any Congress. There is nothing in the law of the State of New York or in the Constitution and Bylaws of this State Society that can abridge the right of any citizen to ask to have any bill introduced that he can persuade a legislator to introduce for him. But there is one important thing that cannot be forgotten. If this Society is going to stand for anything in relation to legislation that it expects to have carried through it can only be done by unity of effort.

There should be complete, absolute, and free discussion of all legislative policy in the Society but once that policy is decided upon it should be a democratic representative proposition that the minority who is licked takes their medicine goes home and licks their wounds, and sticks to the majority opinion. Other than that there will be no representative government and we are going to deal with Soviets—Soviets.

I think this amendment can be changed to accomplish that purpose without curbing initiative. Personally when I first read it I laughed at it. Let me reread it for a moment. Shall not initiate any policy—for heaven's sake, where do policies in this Society initiate except in the County Society? They have to initiate there. Prohibiting any County Medical Societies, their officers, committeemen and members from initiating any policy—why of course they have to initiate in the mind of someone—propose any legislation or participate in any activities—there is not anything in the Constitution and Bylaws of this Society or anything that you can

possibly write into them that can prevent any member from coming before any legislative hearing and saying, I am Dr. Jones. I am a member of the Medical Society of the State of New York. I represent myself, and I am opposed to this legislation, and take your chance on a hearing. That is all right, but if you go there and say I am Dr. Jones, and I represent Westchester County as has been done and I have had to deal with it—I had to deal with it by getting a telegram within three-quarters of an hour stating they did not represent Westchester County for the benefit of the Committee but that is another story—that is all wrong.

Let us see how this wording would suit the opponents. The component County Medical Societies their officers or committeemen—not members—shall not propose any legislation contrary to the declared policies of the Medical Society of the State of New York and end it there.

If we do that it means that if the House of Delegates has declared a policy and we have agreed to it in the House of Delegates assembled or in the Council acting for the House of Delegates, and there has been plenty of chance for discussion, plenty of opportunity for a hearing and we have initiated or inaugurated a policy for the Medical Society of the State of New York, then if five counties out of the sixty in this state go before the Legislature and say We are against it, immediately all these weak kneed guys up there have a chance to say 'What the hell the medical profession is, as usual, disorganized, and we can vote as we please, we will get nowhere.

That gentlemen in essence is the reason I proposed it and the resolution of the House was carried out exactly to that effect some eight or nine years ago or twelve years ago, because I had to meet the situation hand running for seven years.

Let us reread it, let us consider it, and I would be interested to hear the discussion from that angle. I propose to amend this amendment as follows:

"The component County Medical Societies their officers or committeemen, shall not propose any legislation contrary to the declared policies of the Medical Society of the State of New York.

SPEAKER FLYNN Is that a substitute or an amendment to this?

DR. ROONEY This is a substitute for the proposed amendment. I move the substitute motion.

The motion was seconded.

DR. ROONEY A gentleman here raised a question. This says, shall not propose any legislation. I feel that the word propose will cover the question of introduction of legislation or appearing contrary to the declared policies of the Medical Society of the State of New York in relation to pending legislation because that is proposed legislation.

Now gentlemen, take this one thing into consideration. Bear in mind we are going through a crucial period. Bear in mind we are going through a crucial period in relation to the position of the physician to the body politic in this country. Bear in mind that our opponents, the propagandists and the politicians, are anxious to

secure either the actual or the apparent disorganization of this profession on the basis of the old maxim of Julius Caesar, *divide et impera*, break them up into small groups and lick them piecemeal. For that very reason this is the time when more than ever before legislative bodies the profession of medicine ought not alone to be united but ought to appear to be united. If we have dissension, gentlemen, it is like the old story of the gentleman in the first Congress who said, "Gentlemen, we must either hang together or we will hang separately." So that I feel I want to explain that question of the word "propose." If someone else has a better word let him go to it.

DR. WILLIAM S. COLLENS, *Kings* "Initiate" is a better word.

DR. ROONEY No, not "initiate."

SPEAKER FLYNN How does it read now?

DR. ROONEY "The component County Medical Societies, their officers or committeemen shall not propose—"

CHORUS In the Legislature

VOICE How about "introduce?"

DR. ROONEY Let me think for a moment, gentlemen. (Laughter) It is not in the Legislature. I still think that "propose" covers it. I do not think we can choose a better word. That means to propose to the Legislature or to propose before a legislative body the advocacy of legislation that is in opposition to the declared policies of the State of New York.

VOICE Why not say it, then?

DR. LOUIS A. FRIEDMAN Why don't you put it in those words then?

VOICE "Shall not sponsor."

DR. ROONEY Advocate or propose.

DR. LAURANCE D. REDWAY, *Westchester* Point of order! I arose to a point of order on Dr. Rooney's behalf, the point being that the new amendment which Dr. Rooney is proposing must follow the ordinary routine prescribed by the Bylaws—

CHORUS No! No!

DR. REDWAY I asked that question as to whether it must or must not, whether it may be voted on tonight or whether it will have to follow the usual routine of being published for a year and voted on at a subsequent meeting, in which case a little more time would be available for the proper wording of such a resolution.

SPEAKER FLYNN Is Mr. Brosnan or Mr. Clearwater in the room to answer that?

DR. ROONEY May I speak to that? He asked me the question, Mr. Speaker, as a matter of point of order. The moment an amendment to the Constitution or Bylaws is proposed, with due notice having been given of that change, any modifications or substitutions can be made at the meeting at which that is noticed for action.

MR. BROSNAN Correct.

SPEAKER FLYNN All right, Dr. Rooney, continue!

DR. WALTER D. LUDLUM, *Kings* Another point of order, may I ask when this amendment was proposed to the House?

SPEAKER FLYNN Last year.

DR. ROONEY Shall I read this briefly again? "The component County Medical Societies, their officers or committeemen, shall not propose or advocate any legislation that is contrary to the declared policies of the Medical Society of the State of New York."

Dr. Redway asked a question as to what has

to be done to initiate such legislation. The Legislative Committee or the present Council Committee on Legislation cannot of itself initiate any legislation whatsoever. The House of Delegates declares the policy. The other governing branches of the Society simply take that declared policy and adapt it to the exigencies of the time and of the moment and instruct the Committee on Legislation to prepare for introduction into the Legislature the legislation that conforms to the declared policy of the Society. You are safeguarded all along the line, and during that time before the Committee on Legislation you have plenty of opportunity to confer with them, to talk with them, to represent your views to them, and to have your opinions heard.

Bear in mind one thing. The only purpose of this amendment is to prevent the evils of apparent disorganization and disunion of the profession. I think that when you speak about not initiating a policy, I am frank to say, as I said in the beginning, that the amendment unfortunately is poorly worded. The intention is excellent, but it is poorly worded, and I propose that amendment as the substitute for the originally proposed amendment.

DR. LEO F. SCHIFF, *Plattsburg* I both agree and disagree with Dr. Rooney.

DR. ROONEY You always have.

DR. SCHIFF I hope you will agree with me when I get through.

DR. ROONEY I hope so. I sometimes do that.

DR. SCHIFF There is not any question as to the value of a properly drawn amendment which will not interfere with the rights of any individual doctor having his opinion and expressing it on his own behalf. I do not think we should pass an amendment whereby we say one thing which is supposed to mean something else. Let us find the word. There is a word I don't know myself. I am as one-track as you are, but I think the best thing for us to do is to think it over, and in order to do that lay it on the table for a little while, referring it to a committee or back to the Council, if that is necessary, in other words, not act on it until we get the right word which will stand so that we will have an amendment which will prevent interference by members of this Society solely on their own account who in some way misrepresent themselves or allow it to appear as if they were representing the Medical Society when they express their own views. For that reason I move that this amendment be referred to a committee to be appointed by the Chair for clarification and presentation later during this meeting.

The motion was seconded.

DR. ROONEY I accept, Mr. Speaker.

CHORUS Was that a motion to table or to refer?

The reporter read Dr. Schiff's remarks as transcribed above.

DR. ROONEY I will accept the motion made by Dr. Schiff to refer this to a committee appointed by the Speaker for clarification of verbiage and rereference back to this House at a later period this evening or tomorrow morning, as may be designed by the Speaker. I will accept that motion.

DR. WILLIAM S. COLLENS, *Kings* I want to discuss the motion, I wish to talk against the motion to refer and also to talk on this amend-

ment. Obviously the proposed amendment contains in it a spirit which is very similar to the spirit of the original amendment. On the other hand the type of wording that Dr. Rooney proposes I should like—

DR. SAMUEL J. HOPETSKY *New York* Point of order! My point of order is we are debating a reference and not the question. The gentleman is discussing the question. The motion before the House is shall or shall we not refer to a committee appointed by the Speaker to report back later in the evening or tomorrow morning.

SPEAKER FLYNN Your point of order is well taken.

DR. COLLENS I will talk about it tomorrow then, Mr. Chairman.

DR. EDWIN A. GRIFFIN *New York* A point of information. The first original amendment was killed so how can we have an amendment to a killed first amendment?

SPEAKER FLYNN It was not killed. The question was called for and the motion was put to a vote and was unanimously carried.

DR. WALTER D. LUDLUM *Kings* Could not one of the standard reference committees be this committee?

DR. ROONEY It is up to the Chair. It would only have to be a small committee.

SPEAKER FLYNN The Chair will now appoint that Committee to amend Section 7 Chapter XV of the Bylaws. That Committee will be composed of Dr. Leo F. Schiff, Dr. Laurance D. Redway and Dr. James F. Rooney. (Applause)

*Board of Trustees—Execution of Contracts  
Bylaws—Chapter V Section 2  
Section 61*

ASSISTANT SECRETARY PODVIN A third amendment was introduced by the Board of Trustees.

Amend Section 2 Chapter V by the insertion before the last sentence of the following:

"The Board of Trustees shall make and execute all contracts for the Society."

DR. FREDERIC E. SONDERN The Bylaws at the present time cover the situation that no contract, no resolution, no recommendation, or anything else that has to do with money can be passed without the approval of the Board of Trustees. As a matter of fact since the existence of a Board of Trustees no contract has ever been made without their full consent and the signature of the Chairman of the Board of Trustees affixed to every contract concerning the spending of money that we have ever made consequently I believe this amendment is unnecessary.

DR. JAMES F. ROONEY It seems to me that I am in a disagreeable frame of mind this afternoon and tonight, and the worst of it is I disagree with my friends but then I am sort of noted for that sort of thing and I am afraid some of you may agree with that. (Laughter) I do not agree with Fred. He is quite right in what he says. The present Bylaws say that all contracts shall be subject to the approval of the Board of Trustees. The approval of the Board of Trustees and the making of the contract by the Board of Trustees are two entirely different things. The contracts are essentially made by the Council with the various contractees. What happens is that the contracts are made, and they come to the

Board of Trustees for approval essentially in relation to the sum embodied in the contract and such other legal provisions of the contract as the Board feels necessary to safeguard the interests of the Society. That is all that the Board of Trustees has to do with the contracts. If they suggest any changes, the contract must be referred to the Council discussions must ensue and a meeting of minds must take place. I think it is for you gentlemen to determine, after having heard from the Treasurer this afternoon and after having read the report of the Board of Trustees as to whether or not you desire to reposit in that Board which is charged with the responsibility for all of the financial affairs of the Society the right to make contracts of themselves. I merely represent to you the facts. All that we have the opportunity of doing today is to approve or disapprove, we cannot make or break. What the Board of Trustees asks with this provision is the right not only to approve but to make the contract. I feel that if it is the thought that that is too much power to place in them—and I am against reposing the power in any Board of Trustees in this Society that has been reposed in the Board of Trustees of the American Medical Association. The moment we get to that point in my opinion we have gotten to the point of being a relatively undemocratic group. But I feel that this power in relation to financial expenditure—and I think the Trustees are all of a common mind with me—had best at least at present be reposed in that Board.

SPEAKER FLYNN Is there any further discussion? All in favor say Aye opposed No. We will have to call for a standing vote. It takes two-thirds. All those in favor will please rise now all those opposed will please rise. The vote is 86 in favor and 32 against. The motion is carried.

*Revisions—Notice formally given by Dr. James F. Rooney to the 1938 House of Delegates*

SECRETARY IRVING A year ago Dr. Rooney gave notice as shown in the amendments section of your annual reports, that he would present an amendment to Article IV of the Constitution and Chapter IV of the Bylaws, and to make such other changes in other Articles and Sections as to bring the whole Constitution and Bylaws into conformity. In view of the fact that this will require quite an extended survey of the interrelationship of all the provisions I desire to give this verbal notice, and to state that after consultation with the Counsel of the Society I shall submit the written proposals in time to meet the requirement of the Constitution and Bylaws concerning the publication of proposed amendments thereto.

Dr. Rooney submitted the following amendments in time for publication in the March 15 issue of the JOURNAL.

DR. ROONEY Will the Secretary yield?

SECRETARY IRVING Yes.

DR. ROONEY With the permission of the Speaker and the House I feel that perhaps we can save some time in reading the number of pages that contain the amendment to Article IV and the necessary correlative amendments to bring the Constitution and Bylaws into conformity.



Might I ask the privilege of the House to discuss the purpose of this so that we will save time, Mr Speaker, and save the Secretary's voice?

**SPEAKER FLYNN** You have the privilege, Dr Rooney

**DR. ROONEY** Gentlemen, the story is this. As those of you who are familiar with the old constitution will realize, this proposes going back to the old executive council and executive committee, with a diminution in the number of standing committees and a diminution in the number of members of the standing committees.

I have no criticism to offer as to the changes that were made in our Bylaws two years ago except this. I think our present method of choosing councilors is undemocratic and unrepresentative. I have watched the election of councilors and the way the members of the present Council have been elected, and it has been a sort of hodge-podge, a catch and gather proposition at the end of every election morning. We do not have representation on the Council of all of the sections of the state as we had under the old council where every district branch had a representative who spoke for that branch on the council.

There was one feature of the old council that was a bad feature, and that was this: there was a lack of even, fair representation for the Greater City of New York, the First and Second District Branches in relation to councilors, and there was a preponderance of representation from the upstate judicial districts, with which our districts conformed for the upstate members.

Unfortunately, in the printing of the proposed amendments there was a section that was intended to correct this failure of proper representation of Greater New York in the Council that I will read to you in a moment. In other words, my proposal is that instead of having one councilor from the First and Second District Branches we have two councilors from the First and Second District Branches and one from each of the other district branches. That will at least lessen the disproportionate representation of upstate in relation to the proportion of the physicians in Greater New York and those upstate, which is about fifty-fifty, very nearly.

The second thing is we have a Council that meets nearly every month now, with the exception of the summer months. Last year those Council meetings took up a whole day, sometimes longer than a day. This year our President, Dr Groat, has held them down to a shorter time. Last year the average report of the minutes of the Council comprised anywhere from 24 to 40 pages, this year they have been fewer in number. With the old council, the council met twice a year unless it was called in special meeting, and the essential functions of the Society were carried on by an executive committee of ten, of whom three were the president, the past-president and the president-elect, as well as the secretary and the treasurer, and five councilors elected to the executive committee by the council of whom three must, of necessity, be councilors, that is, the presidents of the district branches. That meant on the executive committee at every meeting various districts were represented by their own chosen representatives, chosen in their own localities, chosen from their own men, and these men speaking for them.

The criticism of the old council was essentially

the criticism of the expenditure of the standing committees. We will grant that that had become rather inordinate. The economy made by the present Council as compared to the last two years of the old council, when we include the Legislative Bureau and the Legislative Committee, which was always included in the expenses of the old standing committees in relation to the council, has been a matter of approximately \$2,000 to \$4,000.

This is only my own personal opinion, and I am not speaking for the Board in relation to these amendments. I am not speaking for the Board of Trustees, I am speaking only for myself personally. In my opinion any large group cannot function as efficiently as a comparatively small one. In that connection I always like to think of the old Scotch story that the best kind of a committee is one of three members, one of whom is dead, one of whom is sick abed, and the other fellow who does the work. In the end that is what every committee comes down to.

My proposal in all of these amendments relates essentially to reconstituting the old council, the old executive committee representation on the council of every district in the state, instead of a council which is chosen solely by us, by the House of Delegates, which may be more or less representative, but which is not essentially representative in the fashion that the old council was. That, gentlemen, is the purpose of these proposed amendments.

I feel that the Society will be more democratically constituted in its Council if these proposals are adopted. The ad interim House of Delegates—and this is with no criticism of the personnel of the present Council, for whom I have the highest regard—will enable the affairs of the Society to be more efficiently conducted. A small executive committee has all of the power to carry on the work of that Council, to put into effect its direction, to call special meetings of it, and to conduct matters by referendum if it is necessary—just as much power as this present Council has, but a much smaller body, and in my opinion a very much more efficient body.

There is one further thing. I have reduced the number of standing committees and have still further reduced the number allowed to be appointed upon those standing committees. The standing committee chairmen are, as under the old constitution and bylaws, to be elected by the House of Delegates.

In order to facilitate discussion, Mr Speaker, unless there be objection, I move the adoption of the proposed Bylaws relation to the reconstitution of the Council and such other changes as are necessarily correlated therewith.

The motion was seconded.

**VICE-SPEAKER BAUER** Point of information, you move the adoption of the Bylaws, but you also have your proposed changes in the Constitution as well.

**DR. ROONEY** Constitution and Bylaws, Mr Chairman, proposed Constitution and Bylaws of the Society, to make effective a return to the old council executive committee and the limited number of standing committees as mentioned in the proposed Bylaws.

One thing further, if I may beg the indulgence of the House again. I want to read to you again, if you care to follow me, the change I spoke

about If you will look at page 58 under the heading Constitution Article V I propose this be amended by adding after the word delegates five Trustees and one Councilor from each District Branch except the First and Second from the First and Second District Branches there shall be two Councilors who shall be the President and President Elect of the respective District Branch, giving the First and Second Districts two councilors a president and vice-president instead of one councilor as all of the remaining branches in the state have

SPEAKER FLYNN This motion is up for adoption It has been seconded

DR. ARTHUR H. HEVL, *Westchester* A point of information The motion includes everything published in the JOURNAL from the beginning of the second half of page 60 through page 66 and ending on page 67 is that correct?

DR. ROONEY To the top of 67 with one exception that I should like to except and that I should like to have submitted separately Mr Speaker and that is the final sentence which reads

These amendments to the Bylaws will take effect at the termination of the Annual Meeting of the Medical Society of the State of New York in 1940'

I have heard considerable discussion in the House today asking why that should go over to 1940 I have no interest in that particularly and I feel that we had better leave that separately so that the House can determine whether these amendments will take effect immediately and go into effect in 1939 or whether you wish to postpone the effect of them to 1940 so with that exception I will answer the gentleman's question that it includes everything down to the end of the second column on page 66 Everything with the exception of that last sentence is included in my motion.

SPEAKER FLYNN Is there any further discussion?

DR. LEO F. SCHIFF *Clinton* I would like to ask Dr. Rooney if these proposed amendments provide for some means of retiring the present Council who hold over or whether it is intended to retain such councilors.

DR. ROONEY Curiously enough Dr. Schiff you have hit upon the nub of the corn cob If these take effect in 1940 the councilors elected next fall would take office as councilors but even though they take effect in 1939 the present distinct branch presidents will become councilors except as they are now members of the House of Delegates.

DR. SCHIFF I did not mean that I was referring to those members of the Council, those nine members who are elected three four and two There will be six members left over I wanted to know if your amendment took care of those, or are we going to let them expire or get out of office as time goes on?

DR. ROONEY The office is done away with and that means the term ends.

DR. SCHIFF Does it so state in these Bylaws?

DR. ROONEY It is not necessary It supersedes the old constitution and bylaws

DR. JAMES M. DOBBINS *Queens* I would like to ask Dr. Rooney for a clarification of Section 4 at the top of page 61 The Council shall be the executive and administrative body of the Society

and shall control all arrangements for the annual meeting shall elect an Executive Committee of the Council to carry on, etc. Then referring to page 62 Chapter V Section 1 reads At its first regular meeting the Council shall choose by a majority vote five members of the Council three of whom shall be councilors, who together with the President the President Elect the Secretary the Treasurer and the immediate Past President shall constitute the Executive Committee' It seems to me as though the Executive Committee, as proposed by Chapter V there are five members who ipso facto need not be elected to become members of the Executive Committee, yet Section 4 says that you shall elect an Executive Committee

DR. ROONEY The point of fact is this Those members are ex officio members of the executive committee just as they are now of the Council that is the president past president president elect secretary and treasurer As to the five members of the Council three of whom shall be councilors that means this Dr. Dobbins It leaves the Council free to select two men who may or may not be members of the Council. Is that quite clear? Three must be members of the Council, but it leaves the opportunity for the Council to elect let us say the assistant secretary and the assistant treasurer to act with the executive committee, and in the past that has been the usual course I do not recall—and Dr. Irving will correct me if I am in error—any other than a member of the Council who has ever been a member of the executive committee.

SECRETARY IRVING I think you are correct The usual custom was to elect the Speaker and then a Chairman of a Committee on Arrangements.

DR. ROONEY The Speaker and the Chairman of the Committee on Arrangements

DR. THOMAS H. CUNNINGHAM It seems to me that we are going to get into a terrible mess here, and we are not going to accomplish any useful purpose. As I understand Dr. Rooney the only thing that he hopes to gain by this change—I am sure you can realize what a complicated affair it is going to be, and if we once get into it I'll tell you right now that it is going to be five years at least before we have settled down and begin to function properly under our amended Constitution and Bylaws—is a more democratic type of governmental machinery that is a more representative type.

I cannot conceive of a more representative type of machinery than we have now and I would just like to briefly sketch it as it is In the first place all of the power of this organization now is vested in the county groups The county groups nominate and elect delegates, you gentlemen here. These delegates meet as a House of Delegates and this House of Delegates is vested with all of the power and authority of the entire organization This House of Delegates is the legislative and the executive body of the organization. The Council is elected entirely by this House of Delegates, and is elected only to represent this House of Delegates while this House of Delegates is adjourned Every officer of the organization is elected by this House of Delegates I cannot imagine anything more representative Let us go back for just a moment The County Societies elect delegates, the dele-

gates meet and formulate policies, then the delegates necessarily adjourn in three or four days, and they select and elect a group of men who are to represent them when they are not in session. Your Constitution and Bylaws provide that if any problems come up that seem too big for the representatives (that is, the Council and the officers) to take care of, they shall call back the House of Delegates to consider them.

Just the minute you get into Dr. Rooney's scheme you are going to have representatives for this House, which this House will not select or elect, and that is not representative government.

Four or five years ago this organization realized that you had gradually been developing a bureaucracy. You started to act a generation ago with a very simple type of organization machinery, and as new problems came up and new responsibilities faced the organization, you added on little parts here and there to meet those responsibilities. Four or five years ago you had a bureaucracy that was very inefficient and very expensive. You had groups of men functioning as committees, perfectly well-meaning, honest, intelligent men working on committees, but who were not accomplishing very much because there was no integration of their activities. There was no central organization through which one committee could learn of the activities of another committee. I, personally, know of the chairman of one of the standing committees some five or six years ago going to Albany and urging the legislative leaders to pass a certain bill while at the same time the chairman of another standing committee was there urging them to vote against the bill.

I know also of one standing committee, in fact I was on it, that worked for several months and spent a great deal of time and a great deal of money considering a project which had already been settled by another committee. That was because there was no interlocking of the organization's activities.

As I say, four or five years ago this group decided you wanted a new organization machinery. You appointed a committee that studied the matter for a year. If you think back, it was quite an intelligent committee. That committee brought in a report. You accepted the report. You then appointed another committee, and somebody allotted a couple of thousand dollars, or at least to cost a couple thousand dollars, to finance the next committee, which worked on this matter for a year and held meetings at very frequent intervals and devoted a great deal of time and thought to it. That committee brought in a report at Rochester. This House of Delegates accepted that, with some changes.

At the present time you have a perfectly good machinery, with the exception that there are some squeaks in that machinery. Those squeaks are due to the fact that those changes were made in Rochester, and Dr. Rooney suggested those changes in Rochester. (Laughter)

That is the only difficulty that is now taking place in the functioning of this organization, although I will have to say this. We are not yet functioning under that new machinery as efficiently as we might. For the last couple of years we have been in a transition stage, but in the report of the Board of Trustees—and I

think the members of the Board will bear this out—you will note we are gradually cutting down expenses. The year before last, which was the first year we functioned under the new machinery, we had thirty committees, and we had 108 or 110 members on those committees. Last year we only had five or six committees, with perhaps 30 to 40 members on them. That, of course, cuts expenses. It brings our activities more closely together, and generally stands for better and more modern government.

After that expenditure of time, and of money, and of thought, I just cannot see this group here going back, which you are being asked to, to that old organization machinery, waste all the money and all the effort, and when as a matter of fact the new machinery is not functioning fully and will not be for another year or two. As I said before, I cannot see it. (Applause)

DR. ROONEY. I am very interested to find from my friend, Cunningham, that I am the master of squeaks. I will probably have to get a new degree or something to tack onto my name for that. I don't know just exactly what it will be, the letters to tag on at the end of my name, because I am a Master of Science now, but I propose M S Q.

It is very interesting to hear my friend, Cunningham, orate about what the old machinery was and how much of a bureaucracy it had become. It is a very interesting thing because I have been active in this Society for twenty-five years. I lived in the old machinery for a year, or two, or three. I was one of the bureaucrats, and what a bureaucrat I was! You ought to be afraid of your bureaucrats.

When he speaks of representative government, I recall that some years ago we instituted the direct primaries for our election of United States Senators instead of sending them from our State Legislature. We talk about representative government, when in this House the origin of all good electing is continuing a group to represent it and the state as a whole, and if that is not the way bureaucracies begin, I would like to know what is.

I am very interested to hear that two years is not a sufficient time within which to put into effect these great savings that we were promised were going to occur in relation to the new organization. It seems to me that I have been hearing that in relation to the National Government since 1933. As I said, I do not desire to deal with personalities, and I have no personal recriminations to make in relation to the men who formulated the changes that we made in our organization. It is quite true that I did at that time change the then proposed Constitution and Bylaws. Unfortunately, I feel that at that time I did not go quite far enough, and that is one of the reasons we have had this difficulty.

We have heard about savings and expenditures. I have here a five-year summary of the expenses and disbursements of the Council standing committees, special committees, and what not. I would like to read them to you, if I may, rather briefly. In 1933 and 1934 we have no complete summary because the committee's expenses at that time were not summarized. In 1934 and 1935 they were not summarized completely, but in the last year of the old organization, of 1935-36 the total expenditures were \$16,999.35. In

1930-37 they were \$10,203.04. In 1937-38, they were \$15,800.30 exclusive of the Legislative Bureau and not adding in the Workmen's Compensation Bureau which if it were added would make the total expenditure in 1935-36 \$19,140.25 in 1936-37 \$20,214.04 and in 1937-38 \$23,139.33. The expenditures for the Council committees are comparable in some way—and only in some way—with the old committees and they run about the same.

Dr. Cunningham raised one question that I think is germane and that is the matter of administration, the lack of integration of the committees and the excess of a number of special committees. That is the fault of the administration and it is the fault of the House of Delegates—

CHORUS No no

Dr. ROONEY The fault of the House of Delegates in appointing special committees. I still protest that the objections to my proposal of returning to our old organization which served us admirably and had a few squeaks, as the present one has—in my opinion not nearly so many as the present one has—is a perfectly proper one. Now I leave the matter gentlemen to your decision.

Dr. EDWARD C. WOOD *Westchester* All this discussion of democracies and bureaucracies and financial figures is very interesting but I think we are all missing one very important point. I personally received this report two or three weeks ago, I cannot give the exact date but roughly speaking three weeks ago. Revision of the Constitution and Bylaws is a most important matter. I have not had a chance to read this over carefully and to compare it with the previous Constitution and Bylaws and come to my own opinion as to what I favor or what I do not favor. Some of the proposals may be good and some of the proposals may be not so very good nevertheless we are being asked by the proponents of these revisions to sit here tonight and consider them when I feel I and definitely most of the members of the House are not familiar with them.

I think that this is much too important a matter to consider in this hasty fashion in an evening meeting when everybody gets tired as the evening gets on and the discussion becomes more and more irrelevant. Therefore, Mr. Speaker I move that all these resolutions these proposals be laid on the table until the next meeting of the House of Delegates in 1940.

The motion was seconded and it was put to a vote, and was carried.

ASSISTANT SECRETARY PODVIN May I present a resolution?

SPEAKER FLYNN Dr. Podvin has a resolution he wishes to offer

## 59 Workmen's Compensation—Reduction in Budget of Industrial Council

### Section 84

ASSISTANT SECRETARY PODVIN This morning as the representative of this Society I attended a meeting of the Industrial Council. It was a special meeting of the Council. The matter before us was the New York State budget for the ensuing year. While we may have differences of opinion as individuals in many of the features of that budget there are one or two items in the budget which concern us very intimately. There-

fore, without delaying you further I have a resolution that I would like to submit, and after it has been acted upon by the proper committee if further discussion is necessary I will be glad to give it at that time.

This is the resolution

WHEREAS, a recent study of the compensation department made by the Industrial Council determined that more funds than recommended in the original budget submitted by Governor Lehman were needed for its proper administration and

WHEREAS, the proposed reduction of \$179,077.00 in the present proposed budget would result in crippling this important service and

WHEREAS, this would necessitate the suspension of arbitration hearings, delay the adjudication of cases and cause resultant hardships and injustice to injured employees and eventually added expense to employers and

WHEREAS the expense of this department is borne by the insurance carriers be it

Resolved that this Society express its disapproval of these reductions and be it further

Resolved that the Council be directed to take immediate action to convey the attitude of this Society to the proper authorities

SPEAKER FLYNN This is referred to Reference Committee on New Business B of which Dr. Frederic C. Conway is Chairman

## 60 Report of the Reference Committee on the Report of the Treasurer, and Supplementary Report

### Section 10

DR. SONDERM The detailed statement of the Treasurer partially certified by the Chartered Public Accountants is before you in the published report and deserves your critical study. Your Committee desires to call your particular attention to the Supplementary Report of the Treasurer which he has read to you. Here you have the opinion of an unbiased expert on the financial standing of your Society. He indicates that you are spending 92 per cent of your income from all sources and contends that the remaining 8 per cent is an insufficient proportion of saving to ensure a sound financial structure in view of present-day instability in world affairs, in medical economics and in financial values. His comments on the larger items of expenditure and his repeated admonitions for more conservative spending deserve the attention of this House and the Board of Trustees.

Your Committee is impressed with the large total of salaries and begs leave to bring this to the attention of the Board of Trustees with the hope that these items particularly in the higher brackets may be modified.

Your Committee notes with regret Dr. Kosmak's intimation that he will not accept reelection, which seems unfortunate to us. He deserves the appreciation by the Society of his efficient service during the years he was in office.

Mr. Speaker I move you the adoption of this portion of the report.

The motion was seconded and there being no discussion it was put to a vote and unanimously carried.

## 61 Report of the Reference Committee on the Report of the Board of Trustees

### *Sections 62, 64*

DR SONDERN Your Reference Committee commends the detailed and informative nature of this report and urges thoughtful study of it by all members of this House. Its conservatism throughout and the repeated pleas for less spending by the Society deserve your active support.

While the Board of Trustees knows full well its power under the Bylaws to control and restrict expenditures, it is, however, at all times anxious to agree to the wishes of this House and the Council in the interim, and probably for this reason desires your cooperation in order that it may not be accused of interfering with your mandates or those of the Council.

Nevertheless, it is the duty of the Board of Trustees under Section 2 of Chapter V of the Bylaws to observe and work under the provision "All resolutions or recommendations of the House of Delegates or Council pertaining to expenditures of money must be approved by the Board of Trustees before the same shall become effective." In other words, the Board of Trustees has the vested power to control the expenditures of the Society in every detail and if the Society is spending more than it should, the responsibility is unquestionably that of the Board of Trustees. It is easily possible that the Board of Trustees has given more weight to the mandates of the House of Delegates and the requests of the Council and less than they should to the financial ability to meet the resulting expenditures.

I move you the adoption of this portion of the report.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

### *Five-Year Study of Expenditures*

#### *Section 64*

DR SONDERN Under the heading "Consideration of Financial Problems Directed by the House of Delegates," the Trustees call attention to a mandate of the 1938 House of Delegates "That the Trustees critically analyze the expenditures of the last five years and the benefits accruing, and make recommendations to the 1939 House of Delegates." As your Reference Committee fails to find such tabulation in the report, we beg leave to recommend a new such survey, the results to be reported to the 1940 House of Delegates.

I move you the adoption of that section of the report.

The motion was seconded and there being no discussion, it was put to a vote and unanimously carried.

### *Authority of Trustees to Execute Contracts*

DR SONDERN Relative to the recommendation to amend the Bylaws to include the execution of all contracts by the Trustees, it is the opinion of your Reference Committee that while there is no objection to such addition, the Bylaws are already sufficiently explicit on the control of not only contracts but all other actions involving the expenditure of money. In fact, up to the present, all contracts involving expenditures have had the full approval of

the Board of Trustees, and were signed by the Chairman of that Board as representing the Society.

I move the adoption of that section of the report.

The motion was seconded and as there was no discussion, it was put to a vote and unanimously carried.

### *Audit*

DR SONDERN The Reference Committee feels that a complete audit in which the accountants be furnished with all vouchers and all other data as they may need for a complete survey of expenditures and income be mandatory upon the Trustees.

I move you the adoption of that portion of the report.

The motion was seconded and there being no discussion, it was voted and unanimously carried.

### *Fiscal Adviser*

DR SONDERN The Committee disapproves the recommendation of the Board of Trustees in the employment of a fiscal adviser.

I move you the adoption of that portion of the report.

The motion was seconded.

DR JAMES F. ROONEY I do not know any bank on the four corners of any country village that has an investment fund of \$150,000 that does not have a fiscal adviser, even up to the large metropolitan institutions. The Board of Trustees of this Society are not brokers. They are not bankers. So far as concerns investments in these troublous times the Board of Trustees feels, if it is going to fulfill its function to this Society, it should have the opportunity of securing expert advice. That was the reason for the request that we be empowered to secure investment counsel for a comparatively small sum of money in relation to the change in markets existing all over the world. I feel that this recommendation of the Committee should not prevail. I feel that the Board of Trustees should be permitted to secure proper investment counsel in order to advise them wisely as to investments, and I trust that the recommendation of the Reference Committee will not prevail in regard to the nonemployment of a fiscal adviser.

DR WILLIAM H. ROSS From twenty-two years of experience as the head of a board of directors having to do with an investment fund of \$286,000, not very different from the investment principal of the State Society, from long experience that board of directors employs a fiscal adviser costing five times as much as we propose to ask of this Society. We can employ a competent man, an officer of the Chase National Bank, the depository of our funds, for \$300. He furnishes to us the information on each one of the securities. He digs out for action of the board of directors threatened changes in the interest rate, and submits that to the board of directors. It is the most economic expenditure of \$300 that I know anything about. The advice, largely given by letter, if carried out and if continued—and we may have these reports twelve times a year if we want them—is given to the Treasurer and the investment committee of the Board of Trustees. It is not possible for you to expect of a board of trustees who are prac-

being doctors that they should also have competent financial knowledge. The expense to the Society for this service is a mere drop in the bucket and it is capable of being multiplied to the interest and advancement of this Society several times. It is a very small expenditure for a very splendid and a very large service.

I could multiply these words many times I know whereof I speak. I think I may take you into my confidence and tell you that I happen to be the president of a bank having a million dollars of investments, and we employ a fiscal adviser although we have had years of training in that five-member board of directors. We would not think of trusting our own judgment not confirmed by a man who spends all of his time in financial affairs.

**SPEAKER FLYNN** Is there any further discussion? Before we vote on the adoption of the report or recommendation of the Reference Committee, I am going to ask Dr. Sondern to read it again.

**DR. SONDERN** The Committee disapproves the recommendation of the Board of Trustees in the employment of a fiscal adviser.

**DR. JAMES F. ROONEY** I move a substitute for the motion of the Reference Committee that this House of Delegates approve the recommendation of the Board of Trustees for the employment of a fiscal adviser.

The motion was seconded.

**DR. WILLIAM H. ROSS** State the cost please.

**DR. ROONEY** At a cost of not over \$300 per annum—not to exceed \$300 per annum.

The motion was seconded.

**SPEAKER FLYNN** The motion before you is a substitute motion. Is there any discussion on the substitute motion.

The question was called for and the motion was put to a vote and was carried.

**DR. SONDERN** Under various captions the Trustees ask a number of direct questions of this House. These seem to call for comment on the part of your Reference Committee and will be presented to you by us at the conclusion of this report.

### *Directory Sections 51-63*

Concerning the publication of the DIRECTORY the Board of Trustees recommends that its publication be omitted for the year 1939. Your Reference Committee is not in accord with the statement that omitting the DIRECTORY for 1938 was without real complaint especially in the metropolitan area. Greater New York and vicinity is definitely in need of an annual medical directory. This portion of the state includes a large proportion of the membership and the annual DIRECTORY is a potent factor in securing new members for the Society in the urban areas. It seems most probably true that the expense formerly charged to the compilation and publication of the DIRECTORY was more than actually necessary for the purpose and that the use of more modern and time saving procedures could produce a useful volume at a much smaller cost. In consequence, your Reference Committee would recommend that the Society publish a DIRECTORY this year and alternate years thereafter with possibly supplements in the intervening years and I so move.

The motion was seconded.

**DR. JOHN J. MASTERSON** *Kings* I believe that the DIRECTORY published every year is very important, especially in the metropolitan area as Dr. Sondern states and if the Board of Trustees feels that a supplement can be brought out each year taking care of all the changes that would probably serve our purpose just as well but I do not approve of the report of the Reference Committee that a supplement may be brought out every other year.

**CHORUS** Will be

**DR. JAMES F. ROONEY** This question of the publication of a DIRECTORY with an annual supplement is a part of the proposal of the Board of Trustees. It is one of our original ideas that we could publish the DIRECTORY every alternate year and in the intervening period a supplement containing the changes for the year and in that manner probably save the Society from \$5,000 to \$8,000 a year. I mean every alternate year. The publication cost of the DIRECTORY the full DIRECTORY will remain approximately as it is now unless wages and printing costs go down but we can save about \$5,000 to \$8,000 every other year that can be applied to other purposes or the accrual of our investment fund by publishing a DIRECTORY every other year and a supplement in the intervening year. That supplement will contain all the changes and it will become an integral part of the preceding DIRECTORY.

**DR. WILLIAM KLEIN** *Bronx*. I think where it said possibly there was a mistake in the typewriting. The Reference Committee recommended that a DIRECTORY be published in 1939 and published every alternate year and supplemented in the intervening year. That supplement was not possibly but absolutely I think the word possibly was put in by the stenographer by mistake. It is a mandate to publish a DIRECTORY every other year and also a mandate to publish the supplement in the intervening year.

**DR. SONDERN** That is correct. I move to eliminate the word possibly therefrom as stated by Dr. Klein. From rough figures we thought we would save in the neighborhood of \$8,000 by not publishing the DIRECTORY every year.

**DR. ARTHUR W. BOOTH** *The American Medical Association* publishes a very elaborate census for the doctors every two years.

**DR. JAMES F. ROONEY** Three years.

**DR. BOOTH** They are supposed to do it every two years but even if they do it every three years, if the Society cares to they can have the New Jersey the Connecticut and the New York printed separately by the A.M.A. at a cost much cheaper than what you are now doing it for.

**DR. WILLIAM H. ROSS** I have a letter from the Secretary of the American Medical Association giving his opinion, and not an actual quotation, that a section of the A.M.A. Directory may be furnished to this Society 18,000 copies for \$2,500 with the statement that this is not accurate and may be cut down when we make the study also we may have such additional information in it as we choose to have, such other classifications of members, the list of hospitals the list of schools that we may include New Jersey and Connecticut, all of which would have to be worked out and a definite estimate to be ob-

tained before any action is taken. That matter should be looked into before definite action is taken, as a saving of one-half of the cost or more may be effected in this way. We have not had the time to find out the exact cost as yet, in fact, we have not gone into the matter at all in that way except for this provisional estimate and the letter of the Secretary of the A.M.A. imparting this information to us.

Also I would like to have you think whether a mandate to publish the DIRECTORY, when the last copy cost more than \$16,000, shall be decided arbitrarily by this House of Delegates in advance of knowing just where we are going to make cuts in the expenditures if the principle is adopted that we must live within our dues income. Just think that through for yourself.

DR THOMAS P FARMER After hearing Dr Ross speak, it seems to me that is something we ought to think over. Certainly, Dr Ross is not able to give us enough information at the present time for us to take any action tonight. I, therefore, move that this matter be referred to the Council with power to act.

The motion was seconded.

DR JAMES F ROONEY Is the motion of Dr Farmer's up for discussion?

SPEAKER FLYNN Dr Farmer's motion?

DR ROONEY Yes, to refer to the Council?

SPEAKER FLYNN Yes.

DR ROONEY I would like to speak to that. There has been a great deal of discussion about the DIRECTORY, but if you leave this baby on the threshold of the Council's door, and you get a copy of the text of the Directory of the American Medical Association without any alphabetical index of physicians of the State of New York—because the alphabetical index of the Directory of the American Medical Association is that of all the physicians in the United States not separated by states—there may be considerable dissatisfaction unless you so approve it.

This, here, is the New York Section. There is the possibly proposed format, and I am going to take the liberty, if the Secretary and General Manager will permit me, of passing this section, the New York Section of the new Directory of the American Medical Association, around the House so that you can see it, and then if you want to refer it to the Council for their approval of the format and type of directory you are going to get, very well.

(The specimen was passed around the House of Delegates.)

SECRETARY IRVING It is very important that we should know very soon whether we are to publish a 1939 DIRECTORY of any kind. If possible, I would like to have the House state it now, with the other matters and other phases perhaps postponed, but this year we must know now, otherwise it will be delayed.

DR WALTER D LUDLUM, *Kings* One item that has been lost sight of is that this DIRECTORY is used for the compensation rating, and if you use the A.M.A. you miss out on that compensation rating and, therefore, its value will be cut.

DR ROONEY That is true.

SPEAKER FLYNN Discussion on Dr Farmer's motion to refer this to the Council, which has been seconded.

DR JOHN J MASTERSON, *Kings* This Directory of the A.M.A., which is being passed around

now, does not contain the information that we require in New York State. It has a man's name and address, but it has not his hospital connections, it has not his medical society connections, it has not his office hours, I don't know whether it has his telephone number, it has not his compensation board ratings. Considering that the doctors are paying \$10 a year dues in the State Society, for which they are receiving the JOURNAL, I think in the interests of the effect it will have on membership in the State Society, the Board of Trustees should not consider for a moment giving the doctors the Directory of the A.M.A. because it will not serve our purpose.

DR THOMAS H CUNNINGHAM I simply want to say that Dr Ross called our attention to the fact that the Secretary of the American Medical Association offered to make any changes that New York State might wish to have incorporated.

CHORUS No, no.

DR CUNNINGHAM Dr Ross, did I misunderstand you in thinking that the A.M.A. is willing to put any information in additional that we may want?

DR ROSS I did not say "any information." I did say that some information could be put in at our request, and that any information might be decided after a conference as to what it would cost to have that incorporated. But bear in mind that I have no quotation, I am not stating any fact. I am stating that this question is open, and that the A.M.A. is desirous of doing it if we want it.

DR THOMAS M BRENNAN, *Kings* I am fully in accord with the idea of thrift and economy in the handling of the monies of the Society, but in this case I believe this is one situation where economy should not be considered too seriously. I think we are here as representatives of the rank and file in this House of Delegates. I can see no reason for delegating the question of whether we publish this medical DIRECTORY to the Council. We are the representatives of the rank and file. The rank and file in the large communities want this DIRECTORY. It is of tremendous value to them. It is a selling point in getting members and in holding members. I cannot see any reason why the price of the publication of this Medical Directory every second year will be prohibitive, and I feel that it will bring in income to the Society.

SPEAKER FLYNN The motion for referral is before the House.

The question was called for, the motion put to a vote, and was lost.

SPEAKER FLYNN The question before the House is the adoption of the original motion, with the word "possibly" omitted. Will you kindly read that motion as it now is?

DR SONDERN "In consequence, your Reference Committee would recommend that the Society publish a DIRECTORY this year and alternate years thereafter, with supplements in the intervening years."

DR WALTER D LUDLUM, *Kings* I move as an amendment to this recommendation that the phrase "with supplements in the intervening years" be omitted. Let us pass a motion at this time that the DIRECTORY be published in 1939 and alternate years thereafter, and then it leaves it to the House of Delegates in the intervening

years to have the privilege and opportunity if they so desire of having a DIRECTORY published also in 1940. In spite of this action they can rescind the action of this body and have it published annually and they can also provide next year for the publication of the supplement. Therefore I move as an amendment that the phrase 'with supplements in the intervening years,' be omitted.

The amendment was seconded.

SECRETARY IRVING I do not think that Dr Ludlum knows how long it takes to make the necessary corrections. They must begin early in the year in order for the thing to come out even a supplement by December 1, so I think if you leave it until next year you may go into May before any action is taken, and that will mean the DIRECTORY will not come out on time even a supplement.

SPEAKER FLYNN Is there any further discussion of the amendment of Dr Ludlum?

The question was called for and the amendment was put to a vote and was lost.

SPEAKER FLYNN Adoption of the Reference Committee's recommendation.

The question was called for and the motion was put to a vote and was carried.

#### *A Few Facts from the Auditor's Report*

DR. SONDERN Your Committee would direct your attention to the heading 'A Few Facts from the Auditor's Report.' These again emphasize the need for caution in spending and deserve every consideration of this House. Attention is called to the fact that the difference in figures of the Financial Report of the Trustees and the Treasurer's Statement is due to the fact that the former covers the period from July 1, 1937 to July 1, 1938 while the latter is for the fiscal year 1938.

The report of the Trustees relative to their activities in the settlement of the controversy concerning the JOURNAL is full of interest and definitely deserves commendation. Those directing the new JOURNAL management should have praise on what they have done and your Committee expresses the need for rigid economy and would impress this fact on the Board of Trustees.

#### *President's Dinner*

The Committee considers the President's dinner as a personal affair of the President and that it is not within the scope of the activities of the Medical Society of the State of New York.

I move you the adoption of that which is the end of the report.

The motion was seconded.

DR. GEORGE W. KOSMAK I would like to ask again, Mr Speaker whether you are voting on the report as a whole.

SPEAKER FLYNN Not as yet no.

There being no discussion the motion was put to a vote and was carried.

SPEAKER FLYNN Now the report as a whole including the substituted motion of Dr Rooney. Is there any discussion?

#### *Budget Recommendation from Supplementary Report of the Treasurer Section 10*

DR. KOSMAK There is one recommendation contained there in the supplementary treasurer's report which the Reference Committee apparently has not acted upon and if you would allow me to I would like to draw attention to that Mr Speaker namely that the budget of the Society be based on the actual income from dues and not include any other items. I believe Mr President it would be desirable to bring that matter up for discussion in order that the next administration may be properly instructed on this point.

DR. SONDERN I would say as I recall the discussions in the Reference Committee that we felt this subject was really the business of the Board of Trustees. While in sentiment we were in favor of it at the same time conditions may arise when no matter how desirable that is it is not expedient in one particular year. Therefore I query the wisdom of tying the hands of your Board of Trustees especially when extraordinary and unexpected things may happen that will absorb not only your whole income but which may even take in a certain amount of your capital. I believe definitely this matter has been called to the attention of the Board of Trustees in the Treasurer's supplementary report and should be left to their wisdom as to how they act upon it.

DR. JAMES P. ROONEY I would like to discuss that question if I may in this way. I think that the Board of Trustees can be instructed and they should be instructed to maintain all the ordinary expenditures of the Society within the limit of the income from dues, the ordinary expenditures. There is no question about the authority of the Board of Trustees to approve such extraordinary expenditures as may arise for any emergency. That is already embodied in our law but if the Board is directed to maintain all the ordinary expenses of administration of this Society within the dues income it means gentlemen that we will have much less difficulty in cutting our cloth to suit our figure. I so move.

The motion was seconded.

SPEAKER FLYNN Is there any discussion?

The question was called for and there being no discussion, the motion was put to a vote and was carried.

DR. SONDERN We still have the adoption of the report as a whole, with the suggested changes by Dr Rooney.

SPEAKER FLYNN Yes. Is there any discussion?

There being no discussion the motion was put to a vote, and was unanimously adopted.



## 62 Report of Reference Committee on Reports of Treasurer and Board of Trustees—Questions Asked by the Board of Trustees

DR FREDERIC E SONDERN We have, gentlemen, the direct questions which were asked by the Board of Trustees of this House, and the comments of your Reference Committee concerning them

### *Workmen's Compensation Bureau Sections 13, 45, 72*

DR SONDERN The Trustees ask your opinion as to whether the Compensation Bureau as now set up is satisfactory to the entire membership?

It is the opinion of your Committee that the Compensation Bureau has been beneficial to the doctors practicing in the State of New York, and should be continued without change, and I so move

The motion was seconded, and as there was no discussion, it was put to a vote and was unanimously adopted

### *Centralization of Offices*

DR SONDERN The Trustees see the opportunity for economy, efficiency of administration, convenience of access, and a saving of time to be had from a centralization of offices on one floor

The Society now pays \$4,200 a year for rent. Offices are located on the second, fourth, and fifth floors of the Academy of Medicine. More room is needed for the JOURNAL office. Some study has been given this during the year. The Trustees recommend that this House of Delegates think this over and tell us what they would like to have done

It is the opinion of your Reference Committee that the location of the present quarters of the State Medical Society should remain in the building of the Academy of Medicine. An effort should be made to concentrate all departments to best advantage, and I so move

The motion was seconded

DR JAMES F ROONEY Mr Speaker, I do not agree with the Committee. The important thing for this Society is to collect all of its functions *under one roof and on one floor, if possible*. There is a great deal of lost effort in the separation of the functions of this Society

After discussion a substitute motion was made by Dr Rooney, seconded and carried, "that the Trustees be authorized to continue their study of the question of a change of location and report their findings at the next annual meeting of this House of Delegates"

### *Officers' Expenses*

DR SONDERN The Trustees ask the Society how far it wishes to go in bearing the expense of officers in attendance at unofficial meetings. At the present time only the President is allowed a per diem of \$15 when engaged in official business. All officers are allowed traveling expenses when engaged in official business. Traveling expenses have been interpreted as railroad fare and hotel bills. Does the Society desire to establish a per diem in lieu of expenses other than railroad fare?

Your Committee disapproves of payment of expenses of officers in attendance at unofficial

meetings. Relative to reimbursement for attendance at official meetings, your Committee recommends careful scrutiny by the Trustees before payment, and I do so move

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

### *Appropriations for District Branches*

DR SONDERN The Trustees ask the House of Delegates to comment upon district branches exceeding their appropriations

It is the opinion of your Committee that the Board of Trustees, having the power, should not allow the expenditure of more money by the district branches than allocated in the budget, and I so move

The motion was seconded, put to a vote, and was carried

## 63 Report of Reference Committee on the Report of the Board of Trustees Concerning Resolution in Regard to Publication of DIRECTORY

### *Sections 51, 61*

DR FREDERIC E SONDERN My Committee has a further resolution, introduced by the Medical Society of the County of Kings, Dr Irwin E Siris, reading

"WHEREAS, the Board of Trustees in its annual report recommends the omitting of the publication of the DIRECTORY for 1939, and

"WHEREAS, in view of the several hundred physicians entering practice in our state each year, and

"WHEREAS, the DIRECTORY has additional value on account of the compensation ratings of our members and in view of the changes in these ratings from time to time, and

"WHEREAS, in view of these facts the DIRECTORY after one year becomes of very little value, therefore be it

"Resolved that the Board of Trustees be requested to publish the DIRECTORY for 1939 and each year thereafter"

Your Reference Committee has dealt with this subject in detail, and in consequence moves that this resolution be tabled

The motion was seconded, put to a vote, and was unanimously carried

## 64 Supplementary Report of the Board of Trustees—Review of Expenditures for Last Five Years

### *Section 61*

DR WILLIAM H ROSS There has been a reference within the past half hour this evening to the mandate of the House last year that a critical examination or study be made of the expenditures of the last five years, and the benefits accruing to the membership and to the public therefrom, and to make recommendations to this House of Delegates thereon

The study has been made so far as it could be made from figures. It is not complete. A month of labor has been put in on it. I submitted it to the Board of Trustees, and we believed that it would be better to hold it over until next year. You have heard it commented on by the Reference Committee, and that is the reason I

am making this statement. The figures such as they are I now submit as a supplementary report from the Board of Trustees. They cover rent of the central office rent of the Bureau of Public Relations, rent of the Legislative Office. They cover the cost of telephones for the last five years and that one item I will read \$137 71 for 1933-34 \$204 77 for 1934-35 \$382 61 for 1935-36 \$213 07 for 1936-37. They cover postage and stationery printing contingent fund traveling expenses, general president secretary council and A.M.A. delegates salaries, secretary (Dr Dougherty before his death) Dr Irving recently salaries office manager emeritus, executive officer legal counsel and office employees. So it goes on for eight pages. It will take one hour to read the figures but I submit it as a supplementary report. [See pages 1224 1225 1226]

**SPEAKER FLYNN** Do you want to have that go to a Reference Committee?

**DR. ROSS** I would like to have you know that the Trustees have made an honest effort and a very diligent effort to carry out the mandate of the House of Delegates, but with all of the changes it is not always possible to compare every year however, the study is here for you to consider.

**DR. WILLIAM M. PATTERSON** New York I move the acceptance of the report.

The motion was seconded and as there was no discussion it was put to a vote and was unanimously carried.

65. Report of the Reference Committee on the Report of the Council—Part II, Medical Care Surveys in New York State and Medical Relief

**DR. THOMAS M. BRENNAN** Your Reference Committee on Report of the Council—Part II having to do with Medical Care Surveys in New York State and Medical Relief respectfully submits the following report

#### *American Medical Association Survey*

Your Committee notes with satisfaction the active participation of the Medical Society of the State of New York in two Medical Care Surveys in New York State, through committees selected and appointed by the Council.

The Committee on American Medical Association Survey headed by Dr O W H. Mitchell of Syracuse, choose to initiate the survey by making a cross-section of the sixty two County Societies. The work is not yet completed but the report promises to be enlightening and reliable.

#### *Distribution of Physicians in New York State*

The State Society's study relative to the distribution of physicians in the state state hospitals, etc is practically complete. In this connection the Reference Committee wishes to congratulate and compliment Dr Joseph S. Lawrence on bringing up to date and publishing his study of the distribution of physicians in New York State. The wisdom shown by the Council in giving this wide publicity is reflected in the number of editorial and news column comments appearing in the daily press.

From the many deductions which can be drawn from this study your Committee believes added emphasis should be given the following

1 Resident physicians and hospitals are distributed throughout the state in such fashion that no area is without adequate medical service.

2 Improved conditions for transportation and communications in the rural districts have increased the usefulness of the physician many times over what it was just ten years ago.

3 Improved living conditions are attracting young men to locate in the rural areas.

4 There is no marked difference in the ages of the men practicing in the rural districts as compared with those in the urban districts.

5 Nursing service as part of a public health program demands prompt study.

#### *New York State Temporary Commission to Formulate a Health Program*

In regard to the survey by the New York State temporary commission to formulate a health program in response to an invitation by the Chairman of the Commission the Council arranged to have the State Society properly represented at a hearing held in New York City December 13-16 1938. At that time the state representatives handed in written answers to five questions previously submitted by the Commission. These answers were supplemented with oral discussion at the hearing by our representatives. Your members of your Reference Committee have reviewed the questions and answers and do now approve of the form manner and substance of each answer.

I move approval and adoption of the portion of report of the Council having to do with Medical Care Surveys.

The motion was seconded and there being no discussion was put to a vote and unanimously carried.

#### *Administration of Medical Relief Sections 19 80*

**DR. BRENNAN** In regard to the discussion of medical relief your Committee noted with interest that the Council through its Committee on Public Relations and Economics Dr A J Hambrook of Troy Chairman has conferred at length with representatives of the State Department of Social Welfare looking toward the establishment of suitable rules and regulations governing this work.

The experience of that Committee has emphasized the fact that in regard to medical relief the setup has been far from satisfactory. Attention is directed to the following. Too much centralization of authority too many arbitrary decisions. The medical profession has too little to say about its own activities under the Social Welfare act. Administrative rules are too rigid as a consequence there has been too much red tape. To remedy some of these evils and annoyances the Committee advocates the establishment of a professional advisory committee in each county giving it the authority in local problems now vested in medical social workers or in the Departments of Social Welfare at Albany. In regard to the establishment size, and composition of these committees, your Reference Committee is in accord adding that emphasis be placed on the requirement that nominations be made by the County Medical Society for appointment by the local Commissioner of Welfare.

[Continued on page 1226]

Medical Society of the State of New York  
Comparative Table of Expenses for Five Years Ending June 30, 1938

|  | 1933-34     | 1934-35     | 1935-36     | 1936-37     | 1937-38     |
|--|-------------|-------------|-------------|-------------|-------------|
| Rent   | \$ 2,600 00 | \$ 2 600 00 | \$ 2 600 00 | \$ 2 600 00 | \$ 2 600 00 |
| Telephone  | 137 03      | 170 61      | 177 90      | 199 93      | 453 86      |
| Postage  | 613 60      | 365 65      | 448 76      | 446 08      | 392 68      |
| Stationery & Printing                                    | 1,051 47    | 984 11      | 1,258 18    | 829 32      | 999 34      |
| Contingent Fund  | 830 13      | 1,140 33    | 1,413 09    | 1,347 05    | 1,558 17    |
| Traveling Expenses                                       |             |             |             |             |             |
| General  | 2,284 41    | 1,702 81    | 2,634 95    | 3,132 70    | 1 406 85    |
| President  | 1 164 85    | 820 36      | 427 15      | 1,837 93    | 1 438 80    |
| Secretary  | 91 80       | 91 73       |             | 1,121 76    | 645 12      |
| Council  |             |             |             |             | 2 708 08    |
| A.M.A. Delegates   | 585 40      | 170 06      | 1,620 01    | 209 80      | 2,468 30    |
| Salaries   |             |             |             |             |             |
| Secretary (Dr Dougherty)                                 | 3 000 00    | 3,000 00    | 3 000 00    | 500 00      |             |
| Secretary (Dr Irving)                                    |             |             | 500 00      | 4 300 00    | 12,000 00   |
| Office Manager Emeritus                                  |             |             |             | 250 00      | 3,000 00    |
| Executive Officer  | 8 000 00    | 8 000 00    | 8,000 00    | 9 000 00    | 10 000 00   |
| Legal Counsel  | 12 000 00   | 12 000 00   | 12 000 00   | 12,000 00   | 12,000 00   |
| Office Employees   | 18 742 46   | 18 848 75   | 19 218 78   | 20 625 31   | 20,322 50   |
| Expenses   |             |             |             |             |             |
| Secretary (Dr Dougherty)                                 | 500 00      | 600 00      | 500 00      |             |             |
| Secretary (Dr Irving)                                    |             |             | 100 00      | 500 00      |             |
| Executive Officer  | 1 102 20    | 907 74      | 1,244 29    | 1 026 24    | 1 154 23    |
| Legal Counsel  | 433 05      | 592 29      | 157 05      | 502 25      | 489 12      |
| Honorarium—Dr Kaliski                                    |             |             |             | 1,000 00    |             |
| Honorarium—Dr Elliott                                    |             |             |             | 1,000 00    |             |
| Annual Meeting—Cost to Society                           | 966 79      | 2 867 93    | 128 48      | 2 076 75    | Profit      |
| Auditor  | 520 00      | 500 00      | 500 00      | 500 00      | 500 00      |
| Board of Censors Meeting                                 | 393 97      | 18 22       |             | 24 00       |             |
| Christmas Bonus  |             |             |             |             |             |
| General Office   |             |             |             |             |             |
| Legislative Bureau                                       |             |             |             |             |             |
| Public Relations Bureau & Academy Help                   | 501 00      | 500 00      | 500 00      | 543 00      | 532 00      |
| Conference of County Secretaries                         | 442 40      | 561 02      | 589 68      | 790 01      | 696 05      |
| Custodian Fees   | 141 00      | 179 00      | 247 18      | 209 74      | 227 35      |
| District Branches  |             |             |             |             |             |
| Annual Meetings  | 1,399 18    | 1,589 42    | 1 277 07    | 1,403 35    | 1 358 15    |
| Postage Annual Meeting Programs                          | 757 73      | 666 16      | 677 43      | 566 80      | 521 59      |
| Executive Committees                                     | 400 00      | 200 00      | 250 00      | 250 00      | 250 00      |
| Federal & State Social Security                          |             |             |             | 1,217 42    | 1,818 74    |
| Fire Insurance   |             |             | 11 70       |             |             |
| Workmen's Compensation Insurance (Covering Employees)    |             |             |             |             | 48 00       |
| Printing New Bylaws                                      |             |             |             |             | 150 00      |
| Reprints—Malpractice Defense                             | 477 00      |             |             |             | 32 00       |
| Certificate for Miss Baldwin                             |             |             |             |             |             |
| Conference Officers & Standing Committee                 |             | 1 181 78    |             |             |             |
| Contribution to N Y County—Albee Case                    |             | 1 500 00    |             |             |             |
| Dinner for Sir Henry Brackenbury                         |             |             |             |             | 78 56       |
| Dr Dougherty—Death Notices & Flowers                     |             |             |             | 237 50      |             |
| Medals for Past Presidents                               |             |             | 1 320 00    |             |             |
| Restoration of Old Photograph                            |             |             |             |             | 10 00       |
| Auditing Gardiner's Books                                |             |             |             |             | 225 00      |
| Harris-Dibble Co—Magazine Brokers Report—Gardiner Setup  |             |             |             |             | 250 00      |
| Directory Publication                                    | 14 911 93   | 15,201 50   | 10 069 70   | 9,728 75    | 11,614 90   |
| Journal  |             |             |             |             |             |
| State Society Publication (July 1 1933—Dec. 31, 1933)    | 22,841 45   |             |             |             |             |
| Thomas R. Gardiner Publication (Jan 1, 1934—July 1 1934) | 3,375 42    | 6 864 53    | 7 294 90    | 7 688 00    | 8 112 88    |
| Journal Management Committee                             | 1 142 24    | 3 851 34    | 6 328 16    | 7 003 75    | 5 754 63    |
| Committees—Standing                                      |             |             |             |             |             |
| Scientific Work  | 795 91      | 654 55      | 1,085 20    | 625 78      |             |
| Legislation  | 6 182 10    | 6,588 60    | 7,017 00    | 7,805 75    | 7,403 28    |
| (Legislative Bureau Expenses Incl.)                      |             |             |             |             |             |
| Public Health & Medical Education                        | 6 522 20    | 6 205 00    | 6 080 83    | 5 487 32    | 4 549 51    |
| Economics  | 1 665 10    | 3 415 58    | 5,833 08    | 3,786 70    |             |
| Public Relations   | 1 476 86    | 1 346 16    | 872 20      | 1,483 27    |             |
| Committees—Special                                       |             |             |             |             |             |
| Consider Provision of Medical Care                       |             |             |             | 40 60       | 35 20       |
| Matters Pertaining to Medical Care                       |             |             |             |             | 401 02      |
| Conf with State Hosp Assn                                |             |             |             |             | 148 47      |
| Entertain British Physicians                             |             |             | 853 80      |             |             |
| Maternal Welfare   |             |             |             |             | 50 00       |
| Medical Research   | 256 20      | 40 35       | 38 70       |             |             |
| Revision of Constitution & Bylaws                        |             |             |             | 1,140 52    |             |
| Study State Control of Certified Milk                    | 28 07       |             |             |             |             |
| Medical Trends   |             | 6 802 72    | 16 999 35   | 19,293 04   | 15 360 30   |
| (Public Relations Bureau Expenses Incl.)                 |             |             |             |             |             |
| Workmen's Compensation Bureau                            |             |             | 2,140 00    | 6 921 00    | 7 779 03    |
| Council Committees                                       |             |             |             |             |             |
| Deaf & Hard of Hearing                                   |             |             |             |             | 605 51      |
| Economics  |             |             |             |             | 1,368 37    |
| Contact with Health & Welfare Depts—State                |             |             |             |             | 259 64      |
| Matters Pertaining to Public Health                      |             |             |             |             | 305 51      |
| Medical Care Survey                                      |             |             |             |             | 23 00       |
| Medical Publicity  |             |             |             |             | 6 50        |
| Preventive Medicine                                      |             |             |             |             | 43 14       |
| Detroit Plan of Case Finding of T B                      |             |             |             |             | 392 67      |

|  | 1933-34 | 1934-35 | 1935-36 | 1936-37 | 1937-38 |
|--|---------|---------|---------|---------|---------|
| Journal & Directory Production                         |         |         |         |         | 43 64   |
| Stenotypist  |         |         |         |         | 480 00  |
| Stationery   |         |         |         |         | 406 18  |
| Workmen's Compensation                                 |         |         |         |         | 425 20  |
| (Total 1937-38 Council Committees Expenses—\$4,359 36) |         |         |         |         |         |

## COMMITTEE ON ECONOMICS

|                        |                    |                    |                    |                    |  |
|------------------------|--------------------|--------------------|--------------------|--------------------|--|
| Traveling Expenses     | \$ 1 082 70        | \$ 1 443 65        | \$ 1 738 03        | \$ 1 075 52        |  |
| Secretary              | 96 00              | 750 00             | 1 492 76           | 1 750 00           |  |
| Stationery & Postage   | 155 96             | 587 14             | 1 454 37           | 312 13             |  |
| Telephone & Telegrams  | 187 71             | 204 77             | 382 61             | 213 07             |  |
| Mimeograph Machine     | 135 00             |                    |                    |                    |  |
| Office Supplies        | 54 73              | 270 89             | 211 20             | 189 95             |  |
| Reprints               |                    | 44 61              | 233 97             | 91 00              |  |
| Committee Expenditures |                    | 105 52             | 173 82             | 185 12             |  |
| Cabinet                |                    |                    | 148 23             |                    |  |
| <b>TOTAL</b>           | <b>\$ 1 665 10</b> | <b>\$ 3 415 58</b> | <b>\$ 5,833 98</b> | <b>\$ 3 786 70</b> |  |

COMMITTEE ON LEGISLATION  
(Legislative Bureau Included)

|   |                    |                    |                    |                    |                    |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Rent                                    | \$ 950 00          | 950 00             | 950 00             | 950 00             | 991 67             |
| Secretary & Salary                      | 2,500 00           | 2,500 00           | 2,500 00           | 2,500 00           | 2,500 00           |
| Legislative Service                     | 150 00             | 160 00             | 275 00             | 650 00             | 650 00             |
| Legislative County Chairmen Conf        | 409 24             | 822 42             | 499 58             | 527 76             | 681 85             |
| Clerical Work                           | 270 00             | 252 00             | 360 00             | 380 00             | 320 00             |
| Office Expenses                         | 1 731 72           | 1,943 33           | 1,918 87           | 2,876 20           | 2,324 61           |
| (Leg. Bureau Tel & Tel. Expenses Incl.) |                    |                    |                    |                    |                    |
| Traveling Expenses                      | 144 31             | 324 44             | 446 18             | 187 00             | 83 99              |
| Luncheons & Rental of Room              | 17 00              | 11 55              | 70 65              | 24 80              | 20 61              |
| Telephone                               | 9 89               | 24 95              | 1 65               |                    | 30 55              |
| (Leg. Comm. Expense)                    |                    |                    |                    |                    |                    |
| <b>TOTAL</b>                            | <b>\$ 6 182 16</b> | <b>\$ 6,588 69</b> | <b>\$ 7 017 00</b> | <b>\$ 7 605 76</b> | <b>\$ 7 403 28</b> |

## COMMITTEE ON PUBLIC HEALTH AND MEDICAL EDUCATION

|  |                    |                    |                    |                    |                    |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| Traveling Expenses and Honorarium of Lecturers | \$ 4 148 98        | \$ 3 105 96        | \$ 3,578 77        | \$ 2,269 50        | \$ 2,640 46        |
| Secretary & Salary                             | 1 430 00           | 1 690 00           | 1 560 00           | 1,560 00           | 1,560 00           |
| Stationery & Reprints                          | 108 57             | 84 56              | 148 43             | 106 90             | 41 92              |
| Luncheons                                      | 25 45              | 170 94             | 268 38             | 194 01             |                    |
| Traveling Expenses                             | 714 97             | 1 001 77           | 1,287 44           | 1 115 76           | 176 00             |
| Telephone                                      | 70 83              | 91 38              | 150 82             | 118 73             | 63 44              |
| Office Supplies and Mimeographing              | 18 60              | 28 55              | 42 75              | 71 32              | 62 67              |
| Postage  | 5 00               | 6 03               | 9 29               | 10 11              | 15 12              |
| Extra Stenographic Service                     |                    | 25 00              | 29 00              | 30 00              |                    |
| Lantern Slides                                 |                    |                    | 5 85               |                    |                    |
| <b>TOTAL</b>                                   | <b>\$ 6,522 29</b> | <b>\$ 6,295 09</b> | <b>\$ 6,080 83</b> | <b>\$ 5 487 32</b> | <b>\$ 4,549 51</b> |

COMMITTEE ON MEDICAL TRENDS  
(Public Relations Bureau Included)

|                                 |  |                    |                    |                    |                    |
|---------------------------------|--|--------------------|--------------------|--------------------|--------------------|
| Director's Salary               |  | 2 708 22           | 6 916 68           | 7,812 50           | 7,500 00           |
| Rent                            |  | 265 00             | 806 65             | 1 000 00           | 1 000 00           |
| Postage                         |  | 635 15             | 1 769 82           | 2,802 28           | 740 00             |
| Salaries                        |  | 901 00             | 3,851 87           | 3,852 40           | 3,344 00           |
| Stationery & Printing           |  | 374 64             | 948 29             | 1,814 45           | 1 456 20           |
| Traveling Expenses—Mr. Anderson |  | 101 80             | 661 94             | 325 48             | 184 77             |
| Traveling Expenses—Committee    |  |                    |                    | 237 90             |                    |
| Subscriptions                   |  | 70 64              | 237 70             | 350 68             | 177 37             |
| Newspaper Clippings             |  | 45 72              | 155 65             | 141 03             | 134 80             |
| Telephone & Telegrams           |  | 148 50             | 246 81             | 282 21             | 284 09             |
| Furniture & Fixtures            |  | 924 33             | 838 80             | 446 80             | 84 42              |
| Reprints                        |  | 190 66             | 317 14             | 2,490 86           | 778 61             |
| Auditor                         |  |                    | 70 00              |                    |                    |
| Revolving Fund                  |  |                    |                    | 1,220 80           |                    |
| Office Expenses                 |  | 441 56             | 1 111 91           | 1 195 76           | 1 455 76           |
| <b>TOTAL</b>                    |  | <b>\$ 6,802 72</b> | <b>\$16 909 35</b> | <b>\$23,384 10</b> | <b>\$17 140 10</b> |

|                      |                    |                 |
|----------------------|--------------------|-----------------|
| <i>Credits</i>       | 1936-37            | 1937-38         |
| Mr. Anderson—Income, |                    |                 |
| Outside Sources      | \$ 201 67          | \$ 1,301 06     |
| Sale Pamphlets       | 2,867 62           | 478 72          |
| Revolving Fund       | 931 77             |                 |
| <b>TOTAL</b>         | <b>\$ 4 091 06</b> | <b>1 779 80</b> |

|                |             |             |
|----------------|-------------|-------------|
| <i>Credits</i> | 4 091 06    | 1 779 80    |
|                | \$19,293 04 | \$15,860 30 |

## WORKMEN'S COMPENSATION BUREAU

|                                    |        |                    |                    |
|------------------------------------|--------|--------------------|--------------------|
| Director's Salary                  |        | \$ 5,000 00        | \$ 5 000 00        |
| Office Salaries                    | 719 74 | 778 63             | 1 600 00           |
| Postage, Telephone & Telegraph     | 73 71  | 170 05             | 186 62             |
| Rent                               | 356 64 | 600 00             | 600 00             |
| Stationery Reprints, Multigraphing | 807 73 | 109 97             | 263 19             |
| Luncheons                          | 47 62  | 4 50               |                    |
| Traveling Expenses                 | 130 66 | 248 85             |                    |
| Incidentals                        | 5 00   | 3 00               | 40 22              |
| Auditing and Accounting            |        |                    | 30 00              |
| <b>TOTAL</b>                       |        | <b>\$ 2,140 90</b> | <b>\$ 6,921 00</b> |

|                       | 1933-34            | 1934-35            | 1935-36            | 1936-37            | 1937-38            |
|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>DIRECTORY</b>      |                    |                    |                    |                    |                    |
| Publication           | \$11,204 31        | \$11,728 73        | \$ 8,402 00        | \$ 8,085 00        | \$10,780 60        |
| Wrapping & Delivery   | 1 612 30           | 1,042 14           |                    |                    |                    |
| Postage               | 864 55             | 734 75             | 1,207 20           | 643 58             | 740 61             |
| Commissions—Agents    | 83 75              | 80 00              |                    |                    |                    |
| Commissions—J B Tufts | 550 25             | 542 00             |                    |                    |                    |
| Stationery            | 306 75             | 370 05             | 340 06             | 66 09              | 65 33              |
| Expenses              | 108 52             | 61 83              | 23 54              | 33 18              | 10 36              |
| Discounts             | 31 50              | 36 00              |                    |                    |                    |
| <b>TOTAL</b>          | <b>\$14,911 03</b> | <b>\$15,201 50</b> | <b>\$10,069 70</b> | <b>\$ 9,728 75</b> | <b>\$11,614 00</b> |

fare The necessity on occasions for one or more survey boards in conjunction with each committee can be anticipated

It is admitted that perhaps not all counties will need committees Where the relief problem is small the local compensation board could do double duty

Under this setup your Reference Committee recognizes the necessity for a state professional advisory committee to coordinate the activities of the county committees and act as a buffer between them and the State Department of Social Welfare It would emphasize the absolute necessity of making this committee, as far as possible, a continuing committee This committee would be charged with responsibility of getting local committees under way and providing instruction and guidance in their work

In some counties where the work will be heavy, the appointment of a part-time or full-time medical director of relief may become necessary Such an appointment should be made only upon recommendation and nomination by the County Medical Society The qualifications required of such an appointee have been set forth by the Committee on Public Relations and Economics and seem to your Reference Committee to be entirely satisfactory

In regard to the fee schedule, the Committee on Economics advocates a more reasonable fee schedule for payment of the relief patient's own chosen physician and insists that continuity in treatment by family physician is essential In accepting a fee schedule, 25-50 per cent less than the Workmen's Compensation fee schedule, emphasis is placed on the very definite charitable contribution the doctor is making to the community in working under such a schedule The duties of the professional advisory committees have been reviewed and seem to meet the situation adequately at this time, although changes may be suggested by accumulated experience

Your Reference Committee wishes in closing to compliment the work of the Council through its Committee on Public Relations and Economics We approve the proposed revision to provide a system of administration comparable to the Workmen's Compensation with local autonomy in working out the medical relief problem

We have no specific recommendation other than the continuation of this committee and further study by them of the vast problems involved in the question of medical relief and in the correlation of the activities of agencies participating in the administration of the solution of this problem

We feel that the Council has approached the situation with tact and good judgment, that

they are in intimate contact with the Department of Social Welfare of the State of New York and have gone as far in suggesting measures corrective of abuses as they can under the law as at present constituted We feel that new legislation, relative to social welfare and its relation to medical practice may become imperative and, perhaps, inevitable before evils now existent can be completely eradicated When such legislation comes up for consideration, the Medical Society of the State of New York, through proper committees and through legal counsel, should seek to participate in the formulation of such legislation, and if need be, initiate the program

I move the adoption of the recommendation of the Council

The motion was seconded

DR PHILIP I NASH, *Kings* This is of such vital importance to each of the component County Societies I would like to add to this resolution that a copy of this report be sent to the Secretary of each County Medical Society in the state

SPEAKER FLYNN That will be published in the JOURNAL anyway?

SECRETARY IRVING Yes, but it can be sent individually without any trouble

DR NASH How long will it take before it is published in the JOURNAL?

SECRETARY IRVING It can be sent very readily to the secretaries of the County Societies very soon I think that is very important It is of vital importance, especially at this time, to the Economics Committees, and if you will make such a ruling I will carry it out

SPEAKER FLYNN I do That will be included in this part of the report

DR NASH Will you include that in your resolution?

DR BRENNAN I will be glad to do that

The question being called, the motion was put to a vote, and was unanimously adopted

DR BRENNAN I now move the report of the Committee as a whole

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

## 66 Report of Reference Committee on the Report of the Council—Part III on Workmen's Compensation, and Supplementary Report

### Section 9

DR LEO F SIMPSON We have carefully reviewed the annual report of the Workmen's Compensation Committee of the Council, as well as its supplementary report

The work of the director of the Bureau de-

serves special commendation. His work has been characterized by thoroughness and efficiency and has been of the greatest aid not only to the compensation boards of the County Societies but to all engaged in compensation work. We recommend the continuation of this Bureau.

We would especially urge his recommendation that Workmen's Compensation boards through out the state make a concerted effort to see that the required reports are filled out promptly.

We also recommend that the County Society boards accept these standards recommended by the Bureau as guides in the qualifications of physicians and specialists.

We recommend this report of the Committee on Workmen's Compensation, as published to the House of Delegates for their approval. I so move.

The motion was seconded and as there was no discussion, it was put to a vote, and was unanimously carried.

#### 67 Report of Reference Committee on the Report of the Council—Part III on Medical Expense Nonprofit Indemnity Insurance and Supplementary Report

##### Sections 7-30

DR. LEO F. SIMPSON The Report of the Council on Medical Expense Indemnity Insurance has been considered and it is recommended to the House of Delegates that the following modifications be endorsed: these principles should be embodied in any plan of Medical Expense Indemnity Insurance.

- 1 It must be nonprofit
- 2 It should involve cash indemnity and not medical service
3. Patients must have absolute freedom of choice in selecting a duly qualified physician from all those qualified to practice and willing to give service within the locality covered by the operation of the company
- 4 No third party may be permitted to come between the patient and his physician in any medical relation. The method of providing service must retain a permanent confidential relation between the patient and the physician.
- 5 The fees should not be below those of the Workmen's Compensation schedule but there must be no interference with higher fees being charged to the higher income group
- I recommend the adoption of these first five principles.

The motion was seconded

DR. DAVID J. KALISKI *New York* I wish to draw attention to that section which indicates that the plan shall include medical indemnity but not medical service. For the very low income group whom it is proposed to include under a medical indemnity plan it will really be necessary to provide medical service. In other words, a certain amount of the fee that will be paid by this low income group under any form of insurance policy will have to be distributed on a proportional basis between the physician rendering the service and the hospital providing the bed. It cannot be effected on a pure medical indemnity plan and that is the proposal. I am drawing that to your attention because that is the proposal of the various plans now under con-

sideration. It does not nullify the effect of the indemnity principle but it would effectively bar the inclusion of the low income group from any form of medical service if adopted in this form.

DR. HARVEY P. HOFFMAN *Erie*. The Committee feels that there should be no connection between the hospital service groups and the physicians indemnity group. In other words when we set up a physicians indemnity plan it will have no connection with any hospital plan whatever. We have emphasized this fact.

The idea on the fee schedule although it will not be lower than the compensation fee schedule regardless of whether it is an indemnity corporation or a service corporation is, we will be able to reach the low income group by our medical indemnity plan.

There being no further discussion, and the question being called for the motion was put to a vote and was carried.

DR. SIMPSON In order to have these principles simplified we have advised that Sections 6 and 7 read as follows:

6 All features of medical service must be under the control of the medical profession.

That originally read

All features of medical service must be under the control of the medical profession. This includes all medical phases of institutions involved in the service. It being understood that hospital service is but the extension of the equipment of the physician. Also there should be no restriction on treatment or prescribing not formulated and enforced by the organized medical profession.

We thought the last part was rather redundant and we thought that the first sentence covered the ground adequately at least for the present.

All features of medical service must be under the control of the medical profession.

7 The eventual aim of any plan should be to cover medical care in the office, home, and hospital.

As originally proposed that paragraph read

The eventual aim of any plan should be to cover medical care in the office, home and hospital although at the start it may not be possible from an actuarial standpoint to cover all of these in one policy.

We thought that would be covered sufficiently by

The eventual aim of any plan should be to cover medical care in the office, home and hospital.

#### *Amendment to the Medical Expense Nonprofit Indemnity Insurance Resolution*

Before we ask for the adoption of that the Reference Committee considered a resolution by Dr. Collins, of the Medical Society of the County of Kings. His resolution was to take the place of paragraph 6 which I have just read.

All features of medical service must be under the control of the medical profession. This includes all medical phases of institutions involved in the service. It being understood that hospital service is but the extension of the equipment of the physician. Also there should be no restriction on treatment or prescribing

not formulated and enforced by the organized medical profession "

Dr Collens' substitute for that was.

"That all phases of medical activity in each county be under the control of its own board elected by the individual County Medical Societies and to function in a fashion similar to that of the compensation boards of the various counties These functions to include qualifications of physicians and specialists, determination of fee schedules, arbitration, censorship, expulsion, inspection of cases, regulation of conduct, and ethics "

The Reference Committee felt that this might necessitate the County Medical Societies being a part of an insurance corporation, which we believe to be illegal

Secondly, the permissive legislation now proposed in Albany contemplates an ultimate setup of five major plans in the state, each not to exceed eighteen counties

We believe that it is premature because of these objections to incorporate this resolution as a part of the supplementary report of the Council on medical expense indemnity insurance

I move for the adoption of the seven principles

The motion was seconded

SPEAKER FLYNN Is there any discussion?

DR W S COLLENS, *Kings* I should like to call your attention to this item 6, which appears very innocuous, but which happens to be an extremely important item It is something which, if passed tonight, may come back to plague us later Let me tell you the reasons for it, and I want to discuss the arguments and the findings of the Reference Committee As amended by them paragraph 6 reads

"All features of medical service must be under the control of the medical profession "

That may easily be construed so that any unofficial group of doctors can get together and decide how to control medical activities without having any superior board, or official board, or organized board of any form of organized medicine, have any power or control over this unofficial group That apparently is the intent of No 6 My amendment changes that to create an official status for the group that will control and regulate all phases of medical activity It is concerned with the election of a board by each County Medical Society to regulate the conduct of medical activities in their own county Every county in the entire state under my amendment would have the privilege of electing its own board to regulate its own doctors That does not mean that each county will go into the business of medical expense indemnity as interpreted by the Reference Committee, because in my amendment I state that each board is to function in a capacity similar to the present compensation board in traumatic medicine Everybody agrees that the present board in compensation medicine is not engaged in any business by any or every stretch of the imagination, and the same holds true for any board that would regulate the control of nontraumatic medicine The argument, therefore, that it would put the County Societies into business is entirely false, consequently the County Societies would not be legally liable

This whole thing is still within the limits of the present enacted legislation, which permits the practice of nonvoluntary medical expense indemnity The only thing that I wish to present by means of this amendment is a method by which the medical profession will be protected by their own County Medical Societies That is all

Because of my reasons, therefore, I make a motion that my amendment stand

SPEAKER FLYNN Are you making an amendment to the motion as presented by the Reference Committee?

DR. COLLENS Yes, I presented an amendment this afternoon My amendment reads—

SPEAKER FLYNN The Reference Committee has taken care of that

DR COLLENS In view of the fact that the Reference Committee recommends that my amendment be not accepted I therefore make a motion that my amendment stand.

DR SIMPSON The Reference Committee merely stated that we considered this particular motion premature because of the chaotic state of the present subject, and not that it was not a feasible plan or might not be ultimately, but at present it was premature.

DR LEO F SCHIFF, *Clinton* I have something to offer that maybe Dr Collens will accept if he will defer the placing of an amendment for a moment

It has struck me that there is just a little something of truth in what Dr Collens has said At the same time there is no need to amplify the details of this medical control and I therefore suggest (Dr Collens, if you approve of it, I would suggest that you offer it as an amendment to this Committee's report, or perhaps Dr Simpson will accept it at once) that this Section 6 read simply "All features of medical service must be under the control of the medical profession, such control to be exercised by or under the direction of local County Medical Societies or the Medical Society of the State of New York " That does not bother with the details It just tells how it is to be done, and keeps the outsiders from floating in

DR COLLENS I should like to hear that amendment again

DR SCHIFF "Such control to be exercised by or under the direction of local County Medical Societies or the Medical Society of the State of New York "

DR COLLENS That is all right with me, Mr Chairman

DR SCHIFF I would rather say "The Medical Society of the State of New York or one of its component County Societies "

The amendment was seconded, and as there was no discussion, it was put to a vote, and was unanimously adopted

SPEAKER FLYNN Now the motion is on the adoption of the report as a whole, containing the amendment of Dr Schiff

There being no discussion, the motion was put to a vote, and was carried

DR ARTHUR F HEYL, *Westchester* I believe there are a majority of delegates here in body but not in spirit nor in intelligence This evening's session has now run for three hours without an intermission, and most of us devoted a fair amount of intelligence to the meeting this afternoon Another day will dawn tomorrow If it

does not it does not matter There will be a day thereafter If need be

I move you that this meeting for this evening be postponed to meet again tomorrow morning

The motion was seconded

Dr. JAMES F. ROONEY I would like to move an amendment that this House now adjourn to reconvene at 9 o'clock tomorrow morning

Dr. HEYL I will accept the change.

The session adjourned at 11 15 P M.

## Morning Session

Tuesday, April 25, 1939

The session convened at 9 15 A M in the Plymouth Church Syracuse New York

SPEAKER FLYNN There evidently being a quorum present we will now proceed with the election

### 68. Elections

#### Tellers

SPEAKER FLYNN I will now appoint the tellers As Chairman Dr Leo F Simpson of Monroe Dr Bernard S Strait, of Yates Dr Albert A. Gartner of Erie Dr Morris R Bradner of Orange and Dr J Lewis Amster of New York.

#### Roll Call

We will now have the roll call

The Assistant Secretary called the roll and the following delegates responded Emerson C Kelly Frederic C. Conway William B Cornell, Lyman C. Lewis, J Lewis Amster Edward R. Cunliffe Samuel Epstein, Edward P Flood Louis A. Friedman J Adlai Keller William Klein, Moses H Krakow Samuel M Allerton George C Vogt Leo E Reimann Harry S Bull Edgar Bieber De Forest W Buckmaster Elliott T Bush, Archibald K. Benedict Leo F Schiff John L. Edwards, Daniel R. Reilly Robert Brittain, William A. Krieger Aaron Sobel Herbert H Bauckus Albert A. Gartner Harry C. Guess, Harvey P Hoffman, Thurber Le Win Alfred H. Noehren Joseph C. O Gorman Harold J Harris, Charles C. Trembley Sylvester C Clemans Peter J Di Natale Kenneth F Bott, George A. Burgin, Charles A. Prudhon Charles A. Anderson Albert F R Andresen Robert F Barber John L. Bauer Thomas M Brennan, E Jefferson Browder J Arthur Buchanan William S. Collens, John B D Albora, Maurice J Dattelbaum Benjamin Davidson Harry Feldman, Edwin A. Griffin Walter D Ludlum John J Masterson Ralph Lloyd Thomas A. McGoldrick Philip I Nash Abraham M. Rabiner Irving J Sands, Irwin B Siris, Alec N Thomson, Thomas B Wood Edgar O Boggs, Charles Gullo Richard B Cuthbert Jr Clarence V Costello William A. MacVay John J Rooney Leo F Simpson Willard H Veeder Horace M. Hicks, David E Overton Louis A Van Kleeck, Walter P Anderton, Horace E Ayers, George Baehr Clarence G Bandler Emily D Barringer Edward K. Barsky Samuel B Burk Albert A. Cinelli, Vincenzo Fanoni Alfred G Forman, Howard Fox B Wallace Hamilton, Alfred M. Hellman Roy B Henline Benjamin Jablons David J Kaliski J Stanley

Kenney Moses Keschner Francis N Kimball Samuel J Kopetzky Peter M Murray William M. Patterson Nathan Ratnoff Guy S Philbrick Richard H Sherwood William Hale, Jr John F Kelley Andrew Sloan John J Buettner William W Street, Albert G Swift Homer J Knickerbocker Morris R. Bradner Moses A. Stivers Ralph E. Brodrie, Olin J Mowry Floyd J Atwell James M Dobbins, W Guernsey Frey Jr Frank R. Mazzola H P Mecken Daniel J Swan Joseph Wrana John D Carroll Stephen H Curtis Arthur S Driscoll Stephen R. Montelth W Grant Cooper, G Scott Towne Frank L. Sullivan William C. Treder David W Beard, W Raymond Holmes, Leon M. Kysor Herbert B Smith Coburn A L. Campbell John L. Sengstack, Victor G Bourke, Arthur C. Hartnagel Norman S Moore Frederic W Holcomb Morris Maslon, Denver M. Vickers, Ralph Sheldon C. J T Parsons, Arthur P Heyl Merwin E Marsland Laurance D Redway Edward C Wood Henry S Martin, Bernard S Strait

The following District Delegates were present Theodore West Irving Gray Charles A Earl Reeve B Howland Alfred W Armstrong Louis L. Klostermyer

The following officers were present William A Groat Terry M Townsend Walter W Mott Peter Irving Edward C. Podvin, George W Kosmak, James M Flynn Louis H Bauer Edward T Wentworth Oliver W H Mitchell Thomas H Cunningham Thomas P Farmer James H Borrell, Augustus J Hambrook, Guy S Carpenter Clarence G Bandler William H Ross, James E Sadlier Harry R. Trick James F Rooney George W Cottis

The following ex Presidents were present Thomas H Halsted Grant C Madill James F Rooney Arthur W Booth, George M. Fisher James E Sadlier Harry R. Trick, William H Ross William D Johnson, Chas. Gorden Heyd Frederic E Sondern Floyd S Winslow

#### Election of Officers

The following officers were elected *President* elect and *First Vice President* JAMES H BORRELL, Buffalo *Second Vice President* AARON SOBELL, Poughkeepsie *Secretary* PETER IRVING New York *Assistant Secretary* EDWARD C PODVIN Bronx *Treasurer* GEORGE W KOSMAK, New York *Assistant Treasurer* KIRBY DWIGHT New York *Speaker* JAMES M FLYNN Roches-  
*ter* *Vice Speaker* LOUIS H BAUER, Hempstead *Trustee, five year term* WILLIAM H ROSS, Brentwood *Councillors three-year term terminating 1942*—JOHN L. BAUER, Brooklyn OLIVER W H MITCHELL Syracuse EDWARD T WENTWORTH Rochester

#### A. M. A. Delegates

The following were elected for 1940-1941 Samuel J Kopetzky New York John J Masterson Brooklyn Frederic E Sondern New York James M. Flynn, Rochester Thomas A. McGoldrick, Brooklyn Walter W Mott White Plains Peter Irving New York George W Kosmak New York Guy S Carpenter Waverly

The following were elected alternates for 1940-41 William H Ross Brentwood Louis H Bauer Hempstead, George M. Fisher, Albany



Edward C. Podvin, Bronx, Harry C. Guess, Buffalo, G. Scott Towne, Saratoga Springs, Charles C. Trembley, Saranac Lake, James R. Reuling, Jr., Flushing, Denver M. Vickers, Cambridge

### 69 Election of Retired Members

SECRETARY IRVING Retired membership applications for 1939

David S. Armstrong  
William E. Barron  
Frederick E. Bauer  
Ernest E. Billings  
Edmund E. Blaauw  
T. A. Brady  
Francis J. Carr Sr.  
John M. Clayland  
Frank R. Coe  
Michael A. Cohn  
Warren Coleman  
Reuben Cronson  
Francis W. Davis  
John W. Durkee  
George S. Eveleth  
Gustave A. Fensterer  
Austin Flint  
Alexander Friedman  
W. Whitehead Gilfillan  
Maude Glasgow  
Myrtle A. Hoag  
Lawson U. Hurlburt  
J. R. Johnson  
Eugene G. Kessler  
M. E. Leary  
Morris D. Lederman  
George Griffin Lewis  
Frank W. Marlow  
John D. McBarron  
Jackson M. Mills  
Nathan A. Monroe  
William H. Morrison  
William Frederick Noltung  
O. E. F. Risch  
William Z. Roberts  
William D. Robertson  
E. H. Rogers  
Saul J. Selken  
Francis L. Stebbins  
Sydney A. Stein  
William H. Stewart  
Benjamin T. Tilton  
William D. Towsley  
Benjamin R. Tupper  
George R. Turk  
Fitch H. Van Orsdale  
George W. Whitney  
Charles C. Zacharie

Auburn  
Addison  
New York  
Kingston  
Buffalo  
Saranac Lake  
Buffalo  
Brooklyn  
Warrens  
La Jolla Calif  
New York  
New Rochelle  
New York  
Morristown N. J.  
Little Falls, N. Y.  
Garden City  
Venice, Fla.  
New York  
New York  
New York  
Buffalo  
Norwood  
Syracuse  
New York  
Rochester  
New York  
Syracuse  
Syracuse  
New York  
New York  
Syracuse  
New York  
Brooklyn  
Brooklyn  
Buffalo  
Mt. Vernon  
New York  
Bronx  
Geneva  
New York  
New York  
New York  
Syracuse  
New York  
Buffalo  
Belmont  
Auburn  
Marlboro

I move the election of these gentlemen to retired membership

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried

### 70 Instructions to Delegates from Bronx County Medical Society

DR WILLIAM KLEIN, *Bronx* I have a few resolutions here from the Bronx County Society. In view of the fact that all of them have been embodied and have been adopted in resolutions passed by the House yesterday, if it meets with the approval of the House I would like to have these put on the record as if they were read, with the notation that they have all been adopted by the House already in various other resolutions and reports of the different committees. In that way it will save a good deal of time and save me from reading them. If it so pleases the House, I will have them embodied in the record. They were all acted on already.

SPEAKER FLYNN If there is no objection, the Chair will receive this communication from the Bronx County Medical Society for what it may be worth

CHORUS What are they?

DR KLEIN Resolutions passed yesterday, most of them in the report of Dr. Brennan's committee. All of them have already been acted on.

CHORUS Read them! Read them!

DR KLEIN All right, I will

1 It is moved that our Delegates call to the attention of the Convention the existing inadequacies of medical care as enunciated by the National Health Conference and as recognized by the A. M. A. by its support of proposals one, two, three, and five.

2 It is moved that our Delegates petition the State Society to assume leadership in safeguarding the health of the people of our state by publicizing these medical needs and inadequacies as well as the methods for solving them.

3 It is moved that our Delegates recommend to the State Society that it demonstrate its interest in the economic status of the medical profession by presenting plans for adequate remuneration for the physicians who will supply the medical care under the methods planned.

4 It is moved that the Delegates remind the Convention that the A. M. A. has already endorsed certain proposals of the National Health Conference, namely, proposals one, two, three, and five.

5 It is moved that the Delegates ask for active participation and guidance in the further development of these proposals at the Annual September Meeting of the A. M. A.

6 It is moved that the Bronx County Medical Society inform its delegates of its opposition to the ratification of Chapter XV, Section 7 of the proposed Bylaws of the State Medical Society.

As you know, this was tabled until next year.

7 It is moved that the Bronx County Medical Society instruct its Legislation Committee to oppose the Lewis Bill (citizenship requirement for the practicing of medicine in New York State).

SPEAKER FLYNN All of these principles have been adopted and incorporated in other resolutions.

DR KLEIN Yes, I therefore move the House take no further action except as a matter of record.

SPEAKER FLYNN It has been moved that they be received and placed on file.

The motion was seconded and there being no further discussion, it was voted and unanimously carried.

### 71 Report of Committee on Prize Essays

SECRETARY IRVING A telegram has been received from the Committee on Prize Essays. There was a Prize Essay offered this year and Dr. Frank B. Cross sends in his report. "Committee on Essays advises that no award be made this year."

I move the acceptance of this report.

The motion was seconded and there being no discussion, it was voted and unanimously carried.

## 72. Report of Reference Committee on the Address of the President Elect

### Sections 13 45

DR. ROBERT BRITTAIN This is our third time at the bat We hope to score in a single. (Laughter) We have divided this Committee's report into four sections

### Committee on Financial Study

First, your Committee approves the recommendation of the President-elect authorizing the appointment of a special committee for study and investigation of the cost of the publication of the JOURNAL, reduction of salaries and expenses where there seems to be an unjustifiable excess. This committee to report their findings and recommendations to the Council

We ask for the adoption of this recommendation.

The motion was seconded and there being no discussion, it was voted and unanimously carried.

DR. BRITTAIN The next is a reference to the Board of Trustees

Your Committee approves his recommendation that there be a close inspection and economic distribution of funds and thorough investigation of our expenditures in order to secure the maximum possible reduction. We move this be referred to the Board of Trustees

The motion was seconded and there being no discussion it was voted and unanimously carried

DR. BRITTAIN The third item

### Workmen's Compensation Bureau

#### Section 63

Your Committee approves the President-elect's recommendation that the Workmen's Compensation Committee and the Workmen's Compensation Bureau be continued.

We ask for the adoption of that recommendation

The motion was seconded and there being no discussion it was voted and unanimously carried

DR. BRITTAIN The fourth item

### Foreign Physicians and Nonmember Physicians

Your Committee approves of the President's recommendation for consideration and the study of the licensure of alien physicians, and an active survey of physicians who are not members of their local Medical Societies to get them to become members

We offer this for adoption

The motion was seconded

SPEAKER FLYNN Is there any discussion?

PRESIDENT GROAT I do not want to take any of the President-elect's thunder Where Dr Brittain said President' that was President-elect

DR. BRITTAIN I beg your pardon That is so

SPEAKER FLYNN Is there any further discussion?

There being no further discussion the motion was put to a vote and was unanimously carried

DR. BRITTAIN I move the adoption of the report as a whole.

The motion was seconded and there being no discussion, it was voted and unanimously carried

## 73 Resolution Urging Continued Support for Preventive Health Protection Activities in the State of New York

### Section 85

DR. SAMUEL B BURE, New York I am presenting this resolution at the request of the Division of Industrial Hygiene of the State Department of Labor

WHEREAS, many workers in industry are exposed to conditions conducive to occupational injuries and occupational disease and

WHEREAS the workers of New York State are entitled to protection against such conditions in order that their health may be preserved at all times and

WHEREAS local communities do not possess facilities for the conduct of such work and

WHEREAS, the only health and safety protection in New York State is lodged in the State Department of Labor Division of Industrial Hygiene and

WHEREAS this unit of the State Government has performed most commendable work and has contributed greatly to the protection of workers against accidents, silicosis and occupational poisonings and

WHEREAS, the physicians of the State of New York feel that these efforts are deserving of the full support of the State of New York, therefore be it

Resolved that the Medical Society of the State of New York, through its House of Delegates goes on record in favor of the continuation of these preventive health measures on behalf of the employed population of the State of New York and for the full support of these preventive measures and be it further

Resolved that this action by the House of Delegates be forwarded to the appropriate State Governmental Authorities.

SPEAKER FLYNN This will be referred to the Reference Committee on New Business B Dr Frederic C Conway Chairman.

## 74. Report of Committee on Report of Council Part IV

DR. C A ANDERSON This is the Report of the Committee on Report of Council—Part IV

### Legislation

#### Sections 6 53

The annual report of the Council Committee on Legislation as well as the supplementary report have been reviewed by your Committee The Committee is duly impressed with the volume of work which has been efficiently covered by the Council Committee and Dr Joseph Lawrence, Executive Officer and feels they are to be congratulated on their results. Your Committee offers the following recommendations

The Committee heartily approves of the Legislative Bulletin Service to County Society leaders and recommends their continuation.

I move the adoption of this recommendation. The motion was seconded and as there was no discussion it was voted and unanimously carried

DR. ANDERSON The Committee recommends, subject to the approval of the Board of

Trustees, that in view of the numerically increasing and complicated legislative problems and the possibility of unforeseen contingencies arising, the Executive Officer be provided with an assistant, who shall be a duly licensed physician of the State of New York, who will be able to carry on uninterruptedly the activities of this important department

I move the adoption of the recommendation of the Committee

Reporting on the resolution presented by Dr M E Marsland, of the Medical Society of Westchester County, namely,

*"Be it resolved* That the House of Delegates do instruct the Council of the Medical Society of the State of New York to retain full-time legal counsel to assist and supplement the Society's present representation before the Legislature"

Your Committee disapproves of this resolution in view of the recommendation embodied in the report of the Committee and, furthermore, the subject matter relates to the practice of medicine and only in rare instances is there a strictly legal problem, which problem, can be handled by the Counsel of the Society

I move the adoption of the recommendation of the Committee

The motion was seconded

DR M E MARSLAND, *Westchester* Mr Speaker and gentlemen! It is not the intent of this resolution to change the existing status of the Society's Legislative Bureau in Albany or to displace any of its present personnel. The intent is to provide additional help, the need for which is implied in the Legislative Committee's report for 1938

It is our thought that this help would be best supplied by the employment of a legal representative. Every bill of medical interest has a legal aspect as well, and, in addition, has to be considered from the layman's point of view. We believe that a legal representative would reflect the legal and lay point of view, and his services could, perhaps, be utilized in many instances to present these aspects to the legislators more convincingly than we can

These aspects—the nonmedical aspects—of our problems are frequently of prime importance, and it is often difficult for us with our medical training and background to recognize and properly evaluate them. Our suggestion is in no way a criticism of the present structure, but offers, we believe, a way in which a good machine can be made even better. We need active participation rather than purely consultative legal advice

While the idea is not incorporated in the preamble or body of this resolution, it is to be hoped that the plan suggested would enable us to depart in some degree from the largely defensive program which we are compelled to follow under the present circumstances, because of the press of work which is now imposed. We hope that it will prove to be a step toward a legislative program which will attempt to embody and effect the resolutions of the House of Delegates, that the State Society will be able to adopt a more active program by sponsoring such legislation as may seem necessary to protect and advance the interests of the public and the profession

If this resolution is made effective, the total cost would be less than a cent per day per member. If this item seems to be prohibitive, remember that there is probably no activity of the State Society today that is of more vital interest to its members and to the public than the activities of the Legislative Bureau, and none from which the Society "gets more for its dollar," to use Dr Townsend's phrase in his address yesterday morning

Therefore, I want to make a substitute motion, Mr Speaker, that the report of the Reference Committee on this resolution be not approved, and that the original resolution shall prevail.

The motion was seconded

DR SAMUEL B BURK, *New York* On the substitute motion, I happen to be on that Reference Committee, and during the past thirteen or fourteen years it has been my privilege to serve as a member of the Legislative Committee of the Medical Society of the County of New York

With all due respect, I wish to take exception to the expression that was used as to the passive method that our representative at Albany has participated in the activities of the State Medical Society

True as it is that there are some legal phases associated with pending legislation, I believe that there is no one who can present medical problems more efficiently, more accurately, and with the greatest effect than a medical man. While we might have legal advice on special occasions, we still have the counsel of the State Society, who is ever anxious and willing to help us. However, if we start using the services of a lawyer who will try to represent the medical picture in certain cases, you will find that many of the legislators have already been primed by the opposition, and will only be too ready and anxious to give arguments which are contrary to actual medical facts. I know of no one who can better refute those arguments than a medical man, hence the recommendation as the Committee gave it was expressed bearing in mind all the various angles as were mentioned

DR ARTHUR F HEYL, *Westchester* Last evening before the hour was too late two of our delegates were debating with eloquence, candor, and intelligence a recommendation of the Board of Trustees on a similar issue, namely, that a fiscal adviser should be employed when it came to decisions of investment of money. It seems to me that this is quite parallel, and is a justification for the continuance of our present setup with a physician guiding, but with legal advice, to help frame legislation and to advise how best in addition that knowledge, which has been gained over the years, could be utilized to block laws unfavorable to the practice of medicine and physicians. I cannot see any difference at all in the specialization angle urged last night and that involved here. In fact, in this issue there is much more invested. This deals with the whole future welfare of the Medical Society of the State of New York, and not only with the investment of \$100,000 or so

DR GEORGE W COTTIS Mr Speaker, I do not know whether to be amused or irritated. So far as I know, our present Executive Officer has well performed his duties. I have heard

no criticism whatever of him and I understand in Albany he has tremendous influence. I do not understand that Dr. Lawrence has asked for any full time adviser. If he does require any legal advice we have our own counsel who is paid a good retaining fee every year and who is perfectly willing to do whatever work may be required.

I do not quite like that one cent a day idea because it is rather subtle. I have been doing a little higher mathematics in my own head and I think that would amount to \$3.65 a year and with our total dues only \$10 that is not quite so innocuous as it may sound.

In regard to the fiscal adviser I believe it is obvious that \$300 for advice as to the investment of our funds will probably pay for itself. I do not believe that the salary of a full time legal man in Albany will be justified by the results.

DR. RICHARD H. SHERWOOD *Niagara* I am neither amused nor annoyed by anything that has been said. I have been before legislative committees three times, and one cannot help being impressed by the array of expensive legal talent backing up the opposition to anything that we want done and usually anything that we do not want done.

After hearing the arguments on both sides as to whether we should have a doctor or a lawyer helping Dr. Lawrence I must confess that I am not competent to say which I feel, however sincere in the conviction that we need some kind of help. When you realize that a little band of osteopaths can set the medical profession on their heels and a few working for the chiropractors are so well organized that they can introduce detrimental legislation to the medical profession year after year you know that my statement is so. The work of our Legislative Bureau and the Committee on Legislation is most commendable, but there is a feeling on the part of some of the members of our Medical Society that something more constructive and positive should be under taken in behalf of organized medicine.

In the Department of Social Welfare of this state it is quite apparent we have growing one of the largest bureaucracies in the whole United States, whose rules and regulations have the effect of law when applied locally in our communities. We have been having some wishful conferences with them for a number of years with very little practical effect. It is with the idea not of criticizing the work that has been done, but commending it most highly and adding to that effort in the coming years that some of the doctors feel I am sure that we should have some aid. Whether it be legal or medical should be left to those active in the work and most competent to judge but we cannot go on forever fighting a defensive battle. We must change our tactics, with the realization that sometimes an attack is the best method of defense.

DR. THOMAS P. FARMER You may have been amused or annoyed by some of the remarks in this discussion but I think there have been some words of wisdom spoken. For that reason I want to ask Dr. Burk, who discussed this question, a personal question.

Dr. Burk, haven't you a legal background?

DR. SAMUEL B. BURK *New York* I have

DR. FARMER Will you tell the House of Delegates what it is?

DR. BURK Well it so happens that I have taken the course and passed the bar, and all that goes with it. That is why I spoke as I did and in the vein I did. The reason we made the recommendation was while Joe Lawrence is doing an excellent job heaven forbid if circumstances arose where Joe was temporarily incapacitated. We are all liable to such happenings and it would be well to have somebody jump in and take care of what is going on and under circumstances where there would be an unusual amount of heavy work that somebody would be able to supplement Joe in his work.

Insofar as the legal aspects are concerned it is only here and there throughout the whole year where a problem would arise that would call for legal investigation. I dare say that during the current legislative session there were possibly one or two occasions at the most where that question arose as to whether or not we ought to have some legal advice.

So far as making the necessary contacts is concerned it is only here and there that an individual at the Assembly or the Senate may comment about not knowing Joe Lawrence. I am putting the cards right on the table so that every one can see them and everyone can read them. On one or two such occasions I have had the opportunity of having such a legislator meet Joe Lawrence, and he did not associate Joe Lawrence as Joe Lawrence but as the representative of the Medical Society of the State of New York. They all heed very carefully what he has to say.

DR. FARMER I want to thank Dr. Burk for answering my question. We have listened to the only man in this House of Delegates who has legal training and he has expressed his opinion very accurately and very definitely about the need for outside legal advice. I think if we formulate our own ideas on something we do not know anything about and disregard his advice we are acting very foolishly.

DR. JOHN J. BUELTNER *Onondaga* I have been a member of the Legislative Committee of our County Society also of the State Legislative Committee. It does seem to me that during all the years that Joe Lawrence has had charge of the work and likewise in the various reports of the Legislative Committees if they felt that a legal adviser was necessary recommendation would have been embodied at various times previous to this. They feel that the necessary legal advice may be obtained when they need it, and I feel as the previous speakers have expressed themselves particularly Dr. Burk that we would be making a mistake to change the routine as established at this time. I do feel however that an assistant is necessary in order to continue the good work and so that there would be no chance under any circumstances of a letup on that work.

DR. MERVIN E. MARSLAND *Westchester* I would like merely to straighten out some of the things that have appeared in the discussion that have been away from the intent of the resolution. In the first place there has been a great deal of talk about a legal adviser. That is a secondary consideration. What we are talking about is having someone who has active participation in the work before the Legislature, someone who in certain instances and with certain types of bills

can appear before committees, can approach certain legislators

The reason and the background for this are that in my own personal experience as a member of the Legislative Committee in approaching these men frequently we cannot get them to see our point of view, and frequently we cannot see theirs. I have had the experience of having a bill which was most objectionable from a medical point of view discussed, and my argument would be most convincing to me but the legislator could not get that point of view yet perhaps some minor point that I brought up affected him personally and was the thing that convinced him. We cannot always see things in their way, and we feel that having someone who sees their viewpoint, who speaks their own language, would be of value in certain instances, not in all. There has been no such intention to use him in all instances.

We do not like to be in the position of telling Dr Lawrence what he needs. It is merely that we feel such a man would contribute something to our Legislative Bureau that we do not have at the present time.

As far as the question of expense is concerned, the fraction of a cent a day that I mentioned, I put that in purposely. We figured out that the cost of one cigarette a day would more than twice pay for the services of such a man. We do not realize how many of us there are in the state, nor what an investment we have to protect. We have a gross income that I would estimate at \$60,000,000 a year, which is worth protecting.

The argument of not having anything but a medical man represent the Society is like the fly fisherman who would rather go hungry than use bait. We are prejudiced.

Finally we have to remember that this plan is not irrevocable. We can try it to see what it is worth, and if it does not work out it can be modified.

The question was called for, and the motion was put to a vote, and was lost.

**SPEAKER FLYNN** The motion before the house is the adoption of the report of the Reference Committee.

There being no further discussion, and the question being called for, it was put to a vote, and was carried.

**DR ANDERSON** I move the adoption of the report of the Committee as a whole.

The motion was seconded, and there being no discussion, it was put to a vote, and was unanimously adopted.

### Publications

**DR C A ANDERSON** As to Publications, the Committee is of the opinion that the merging of the Publications Department and the Bureau of Public Relations as directed by the House in 1938, under the general chairmanship of Dr Peter Irving has been of value. We congratulate the Committee on the appearance of the *JOURNAL* as published since January 1, 1939, and feel confident that the venture will be a great success.

I move the adoption of this report.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously adopted.

### Medical Publicity

**DR ANDERSON** As to Medical Publicity, your Committee approves of the practice of news releases of medical events, such as meetings of the district branches, general editorials, and news events of interest to the profession and the lay public, and recommends the continuation and extension of this project.

I move the adoption of this recommendation.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously adopted.

**DR ANDERSON** Regarding the matter of Speakers Service Bulletins, the fact that of 958 questionnaires sent out, 451 replies were received, and 389 physicians approved of these bulletins and desired them to be continued, speaks in favor of continuing this publication. The committee recommends the continuation of the publication of the Speakers Service Bulletins.

I move the adoption of this recommendation.

The motion was seconded.

**DR GEORGE W KOSMAK** I would like to move a substitute motion to the effect that this matter be referred to the incoming Council and Board of Trustees for further study.

The substitute motion was seconded.

**SPEAKER FLYNN** Is there any discussion on the substitute motion?

The question was called, and the motion was put to a vote, and was carried unanimously.

**DR ANDERSON** The Committee desires to express to Mr Dwight Anderson and his office force their deep appreciation for their untiring interest and effort in the work of his department.

I move the adoption of the report as a whole, sir.

**SPEAKER FLYNN** With the substitute motion.

**DR ANDERSON** Yes.

The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

### 75 Report of Reference Committee on New Business A on Resolution Regarding Internship as a Requisite to Practice Medicine in New York State

#### Section 33

**DR GEORGE BAEHR** Regarding the resolution submitted by Dr Charles Gullo, calling for modification of the Medical Practice Act, your Reference Committee A recommends approval of the proposal of Dr Charles Gullo which would place the Medical Society of the State of New York on record as favoring the requirement of an acceptable internship of at least one year's duration as one of the requirements for a license to practice medicine.

The Committee has taken the liberty of rewording his resolution as follows:

"Resolved that the House of Delegates hereby instructs the officers of the Medical Society of the State of New York to take whatever steps may be necessary to secure the introduction of legislation to amend the Medical Practice Act, so as to require internship of not less than one year in an acceptable hospital approved for internship by the American Medical Association, before a license to practice medicine may be granted by the Board of Regents of the University of New York."

I move the resolution

The motion was seconded and as there was no discussion it was put to a vote, and was unanimously adopted

## 76. Report of Reference Committee on New Business A on Resolution Regarding Basic Science Law

### Section 34

DR. GEORGE BAUER This is on the resolution introduced by Dr Charles Gullo reading

Measures be taken that law be enacted requiring that all persons desiring to practice any of the branches of medicine such as chiropractic naturopathy and other similar groups must before allowed to practice their art pass an examination on the basic sciences besides meeting present requirements

The Reference Committee on New Business A believes that any regulation of chiropractic naturopathy and similar irregular and unlawful and essentially fraudulent practices would be equivalent to granting them legal recognition and authorization

Your Committee, therefore recommends that the resolution be disapproved

I so move.

The motion was seconded

DR. CHARLES GULLO Livingston It is not a question of the Medical Society recognizing a chiropractor or any of these other fellows it is a question of regulating them. It was mentioned yesterday that some years ago when the law was passed requiring that the osteopaths be made to take an examination there were quite a number of them I imagine that law was passed under similar circumstances in that it was opposed by the House of Delegates. However it was eventually passed so that osteopaths have been made to take an examination You did not recognize them as physicians you recognized them as osteopaths. However one thing was accomplished You did regulate them and as a consequence was again mentioned yesterday only forty have been licensed since then In other words the law as is preventing the entrance into the State of New York of a vast number of osteopaths than we would have had otherwise.

There are other states of the Union where the basic science law has been passed and I believe investigation by the Society would find that as a consequence the chiropractor and all the rest of them are petering out

Just because we do not recognize them and we say they do not exist does not make that so They are still practicing some medicine and we as a Society have a public trust to see to it that the public is guarded from any fraudulent practitioners of medicine.

VIC-SPEAKER BAUER I am in sympathy with the Committee's recommendation but I am wondering if it is not going to accomplish the reverse. In disapproving of the resolution it might be considered in some places as approving these cults because we are refusing to disprove them. I think it would be more effective if action were postponed indefinitely That disposes of it as effectively as disapproving of it I so move, Mr President

The motion was seconded

DR. GULLO May I say this the action of the Legislature during this present session indicated one thing they refused to allow the chiropractors to receive a license to practice in the State of New York that license to be issued by a Board of Chiropractors but that points out one thing—that the legislators do want them to be regulated and that they be given a license only if they meet certain requirements.

DR. RICHARD B. CUTNIBERT JR. Madison I hesitate to appear on my feet before this House for the first time on an unpopular subject However as President of the County Society last year I had occasion to have considerable discussion with Mr Milmoie our assemblyman who sponsored last year and again this year the osteopathic bill Mr Milmoie is no more favorable to the osteopath as a practitioner than you or I would be He would be no more likely to consult an osteopath than any person in this room However he has told me that the sentiment of the Legislature is that something should be done to regulate these fellows, the osteopaths the chiropractors the naturopaths and what have you The Legislature is going to pay some attention to those men regardless of what we feel I have had it on pretty good authority that had the osteopathic bill not passed the Assembly this session the chiropractic bill would have passed

It is time for the Medical Society of the State of New York to take a leaf from Henry Arm strong's books and start going ahead instead of continuously fighting It is time we stood for steps to regulate these fellows and not continuously say We don't want them We don't see them They are here and it is time to take steps to regulate them and see what we can do in that way (Applause)

SPEAKER FLYNN The motion is to postpone indefinitely All those in favor say Aye those opposed No I will call for a rising vote All those in favor of postponing indefinitely this report of the Reference Committee

DR. MORRIS B. MARSLAND Westchester State the motion again

VIC-SPEAKER BAUER I moved that action on the resolution be postponed indefinitely

DR. GULLO I ask for a standing vote

SPEAKER FLYNN All those in favor of postponing indefinitely stand all those opposed The vote is 58 to postpone and 57 not to postpone I will vote in the negative making it a tie vote and the motion is lost

The motion is now on the recommendation of the Reference Committee

CHORUS Recount!

VOICE As a matter of information that was not a tie vote

VIC-SPEAKER BAUER The speaker has the right in the case of a vote where there is a difference of one to cast his vote making it a tie vote as well as to vote in case of a tie He casts vote twice, but if he votes to make it a tie that is his privilege and the vote is then lost if it is a tie vote

SPEAKER FLYNN The motion before the House is on the adoption of the report of the Reference Committee

DR. LEO P. SCHIFF, Clinton It will seem the House is almost evenly divided

important question it would be too bad for us to go on record in haste or through a misunderstanding even by implication recognizing any of these fraudulent practices as being legal. They are illegal, and that is the only attitude that we can take ostensibly and consistently.

In attempting to regulate by legislation anything that is illegal, we immediately elevate it to the status of legality. We are not in a position at this time to think this thing over carefully. Arguments come to our mind, as we have sat down, of something new. I believe that the most sensible solution to this would be for the Reference Committee to amend its report so that it will end in this way: that we recommend that no action be taken at this time. In that way we do not commit ourselves. I now move you as an amendment to the report of the Committee.

CHORUS We voted on that.

DR. SCHIFF That is not postponing indefinitely. The thought is slightly different.

CHORUS No, no.

DR. SCHIFF If that is not agreeable, as the temper of the House seems to indicate, I then believe it should be referred to some other committee because it ought not to be acted on at this time, gentlemen.

CHORUS Why?

DR. SCHIFF Because we are not in a position with so close a vote to decide a thing like this possibly of very great importance. I move that this be referred to the Council with power to act.

The motion was seconded.

CHORUS No.

SPEAKER FLYNN The motion before you is to refer to the Council, and that has been seconded.

DR. HORACE M. HICKS, *Montgomery* There is not a member in this House, I do not think—there may be some of the younger members here who do not remember, but the difficulty it seems to me (and I don't know that I am right in this but I fear that I am right) is that you are opening up a subject which will do something with the Medical Practice Act. As you do that you are going to open up a floodgate. You want to stop and think about it. Just as sure as you do that, gentlemen, you are going to be in trouble. It took us six years to get our present Medical Practice Act. Don't forget it, if you open it up you are opening up trouble. (Applause)

DR. HOMER J. KNICKERBOCKER, *Ontario* The way the situation stands at present, all who can comply with the Medical Practice Act may apply for examination for licensure. These men whom we are discussing have not those qualifications. As far as regulating them is concerned, they are at present outside the pale of the law, they belong to the bootlegger and the gangster, and you might as well try to regulate them. Let us prosecute them. Albany does not prosecute on complaint, and if they do they do not get convictions. That is what we need. (Applause)

DR. GULLO We all admit that these fellows are practicing illegally, and I contend that the Medical Society of the State of New York has a public trust to watch and see that those who are taking care of the sick are properly equipped to do so.

If you talk to any of your patients, from the

intelligent to the one who has no education at all, they will tell you these men should be allowed to practice. Let us mention one man who is in the Legislature today and who voted in favor of that particular legislation to have the chiropractors come in, *Assemblyman Wadsworth*. Has he any education? We grant he has. He contends that these fellows should be allowed to practice. If such a man says that, what does the rest of the public think? They come to the conclusion, the public does, that they are qualified in their particular field to do what they are doing. The public looks to us, as doctors—it does not look to the lawyers or anybody else—it is our business to see that they are qualified intellectually if not medically. If we did that, you would not have a carpenter a chiropractor, you would not have a ditchdigger a chiropractor. If these people were required to pass the basic science examinations, there is only one result that would follow, and that would be that they would come to the conclusion as their studies went along that they might as well study medicine rather than chiropractic. That is what happened to your osteopaths. That is why they have petered out, as was pointed out yesterday. We have licensed only forty in the last several years. That has happened in the other states of the Union, and it will happen in the State of New York.

DR. SAMUEL B. BURK, *New York* I do not want to inject myself, although the subject is very interesting and very important so far as the profession is concerned. It seems to me that yesterday we listened to a lot of oratory about regulating or, as a matter of fact, keeping out of the practice of medicine individuals who were not properly qualified. Today, very much to my surprise, I find there is a sentiment about regulation. I believe, and I think everyone in this room feels the same way, with few exceptions, that the practice of medicine really should take care of the health and welfare of the public. Can these gentlemen who have not had the proper training and experience take care of such problems which are dependent upon materia medica, and pathology, and the whole group of studies that every student must study before he obtains his license? I cannot see in any way how these individuals can be regulated. They are either doctors or they are not doctors.

In passing may I add that Dr. Harold Rypins of the State Board of Examiners is here, and I believe he could help us and enlighten us, if you will grant him the privilege of the floor. (Applause)

SPEAKER FLYNN Dr. Rypins!

DR. HAROLD RYPINS Mr. Chairman and gentlemen, thank you for the privilege of the floor. I shall be very brief. I have no argument to present. My whole duty, I hope, is to keep the record clear. There have been a great many inaccurate statements made here yesterday and today. I controlled myself yesterday when it was repeatedly reiterated in this House that exactly forty osteopaths had passed the state licensing examination. That is an absolutely inaccurate statement and an unfounded statement. Although I do not have the correct figures here, I can tell you that over half and probably almost three-quarters of the present osteopaths practicing in this state have passed

the regular state licensing examination other wise they would be the healthiest group in the world. They have been licensed since 1907 and if over 85 per cent of them are still living and practicing I am going in for osteopathy.

I am not going to talk about the osteopathic matter at all. I presume Dr. Baehr's resolution is directed primarily to chiropractors, the naturopaths and others of the lower level. I also assume that all of us are agreed on one program and that is how to get rid of these people. So it comes down to a question of the best procedure to get rid of them.

I have been intimately connected with this problem and have devoted about half of the last fifteen years to it, and I think you should know that we are making progress. One of the best evidences of that is that those of us who know anything at all about politics in Albany were satisfied that this was probably the best opportunity the chiropractors had ever had in the last twenty years to secure legislation because it is a matter of popular knowledge that generally speaking this is a measure which is favored by the Republicans much more than the Democrats.

CHORUS: Shame!

DR. RYFINS: And we were extremely apprehensive, in fact if Mr. Dewey had become governor I am almost satisfied we would have had chiropractic legislation.

CHORUS: No no.

DR. RYFINS: That is my opinion gentlemen. But he was not elected governor. At any rate the Republicans largely represent the upstate communities, which have been very candid in saying they want to regulate the chiropractors that what they want to do is to get them off their necks, they are tired of them. The chiropractors were able to get 37 votes in the Assembly and it was so weak they did not even try in the Senate. There must be some explanation for it. The explanation is in spite of the fact that one of the gentlemen said no prosecutions have been accomplished, the prosecutions accomplished in reality a very great deal. I would like to refer very briefly to some figures I have. While these figures do not of course refer specifically to chiropractors, I presume we would prosecute more chiropractors than any other cult or illegal practitioner of any kind.

Since 1926 we have received 4,840 complaints of illegal practice from all parts of the state. I believe that we investigate every complaint we receive. About two-fifths of these, 1,900 upon investigation we found there was no violation of the law whatsoever. For instance a doctor will write in that some optometrist is calling himself a doctor etc. That may be true but under the law there are certain optometrists who are entitled to call themselves doctor. As long as they have the legal right of course there is no violation. We have almost a similar group about two-fifths of the total number, 1,832 where the violation is of a minor or technical nature. For instance, a chiropodist who is doing a little more than a chiropodist should do or a massage operator who is using a few electric lamps or physiotherapy, a whole group of these beauty culture people and massage people. If you send out an inspector and send them a notice that they have to stop almost all of these people will stop with

out going to court. That leaves a total of 808 people who will not stop without going to court. I may state right here and now that the chiropractor will not stop unless he goes to court or unless he goes to court three or four times. The gentleman alleged there were no prosecutions. There were 808 prosecutions out of which there were 753 convictions and only 55 acquittals. That is not a perfect batting average but it is higher than any criminal prosecutions by any district attorney in this state.

The result of this is twofold. One is that they get discouraged. A man may want to go to jail twice and pay a fine twice, but he usually gets discouraged after the first or second attempt. The second thing is that he is always on the defensive. In order to get a treatment by a chiropractor today my inspectors have to be introduced by some individual who will vouch for him as a person who will not give evidence and in many cases even if he gets in—and it is very difficult now to get in—he has to sign a document saying that he will not give evidence against the practitioner. It is difficult enough to get patients anyhow as you know and fewer patients will come in by the way of a back door as they must realize that they are engaging in a bootleg practice. How long do you think they are going to continue coming? Some of the old ones will continue coming but the new ones do not come in so rapidly.

What is the practical result? In 1926 there were over 4,000 chiropractors in this state in actual practice. At the present time the chiropractors themselves—and they claim the greatest they can claim—claim about 1,000. Of these 1,000 from my experience I should say that no more than 57 are in practice, the others are running street cars or buses, or they are barbers or something during the day and if a couple of patients come in at the back door at night they are chiropractors.

What we all want to do is to get rid of these people. There are two ways of doing it. I think we have the right program if we keep at them. We certainly have done something, for there are already less than 50 per cent of what there were. They are in hiding now and some of them doing a bootleg business. We will probably never completely get rid of them all but we have attempted to do so.

SPEAKER FLYNN: Make a public issue of it and lock up two or three hundred at a time.

DR. RYFINS: I am glad we did not do that because the minute you do that as some other states have found to their sorrow they get the whole public aroused and behind them and it gets to become a public issue, and they are all heroes. They did that in Ohio. They had 200 in jail at one time. The result is that Ohio promptly licensed them. As the prior gentleman said it is a very serious business, for once you give them legal status they will acquire more legal status. We have been extremely fortunate in this state in keeping them from having any legal status. All the other states think New York State is so much better off than they are. It is a question of persistence and patience and willingness to see the thing die out slowly because it is very definitely dying out. As a person, I urge you to support the resolution of Dr. Baehr, and to let nature and the law take its course without mak-



ing the mistake now that we have won this fight, and we certainly have won it after fifteen years. It would be a mistake to reverse ourselves and say, "Well, we are licked. Let us give them some legal status." It will be a mistake for the medical profession and a mistake for the public health.

I am sorry to have talked so long, and I want to thank you very much.

DR. HERBERT H. BAUCKUS, *Erie*. I think if we postpone this matter now we really give face to the culis. The Reference Committee quite plainly has moved that we adopt its report, which in effect means that we are going to go along with enforcing the Medical Practice Act. I think that we have that question to decide, and we will soon decide it. I believe we ought to settle it and decide it right now.

DR. GULLO. Could I amend that motion before the House?

SPEAKER FLYNN. The motion before the House is on an amendment to the Reference Committee's report, and refers it to the Council for action. Dr. Schiff made that amendment.

The question was called for, and was put to a vote and was lost.

SPEAKER FLYNN. The question before the House now is on the adoption of the report of your Reference Committee.

The question was called for, and was put to a vote, and was carried. (Applause)

#### 77 Report of Reference Committee on New Business A on New York State Department of Education—Physician as Director of Division of Health and Physical Education

##### Section 36

DR. GEORGE BAEHR. This is on a resolution presented by Dr. Parsons, of Westchester, reading:

"WHEREAS, the House of Delegates adopted a resolution in 1936 (Sec. 65, Minutes of the House of Delegates, 1936) providing that the Medical Society of the State of New York 'take such steps and sponsor such legislation as may be necessary to require the appointment of a duly qualified physician as Director of the Division of Health and Physical Education of the State Department of Education', and

"WHEREAS, no bill has been introduced into the Legislature, or other action been taken to effect such a change in the Education Law, therefore be it

"Resolved, that the House of Delegates reaffirm the resolution passed in 1936, and direct the Council of the State Society to introduce and seek the passage of such legislation, requiring the appointment of a duly qualified physician to the aforementioned directorship."

Your Reference Committee A on New Business approves of the resolution presented by Westchester County, concerning the directorship of the Division of Health and Physical Education of the State Department of Education, but has taken the liberty of rewording it in the following manner:

"Resolved, that the previous action of the House of Delegates in 1936, concerning the directorship of the Division of Health and Physical Education be reaffirmed, and be it further

"Resolved, that the officers of the Medical

Society of the State of New York be directed to take the necessary steps to secure the introduction and enactment of legislation which will require that the Director of the Division of Health and Physical Education of the State Department of Education be a duly qualified physician."

I move the resolution as amended.

The motion was seconded, and as there was no discussion, it was put to a vote and was unanimously carried.

#### 78 Report of Reference Committee on New Business A on Principles of Professional Conduct Relating to Contract Practice

##### Section 52

DR. BAEHR. This is on a resolution presented by Dr. Joseph Wrana, of Queens, concerning Principles of Professional Conduct Relating to Contract Practice. The question concerning the right of organized medicine to discipline its members for infractions of its rules relating to contract practice is now before the Courts of the District of Columbia. Your Committee, therefore, recommends that the resolution of Dr. Wrana, regarding amendment of the Principles of Professional Conduct Relating to Contract Practice, be tabled.

The motion was seconded, put to a vote, and was unanimously adopted.

#### 79 Report of Reference Committee on New Business C Regarding Free Choice of Physicians in Medical Relief

##### Section 31

DR. FLOYD J. ATWELL. Your Committee has considered the resolution introduced by Dr. Harry C. Guess, of Erie, on the subject, "Free Choice of Physicians," and with his consent has reworded the resolution without altering its intent. The amended resolution follows:

"WHEREAS, the principle of free choice of physician by the patient is vital to the progress of medical work, and

"WHEREAS, the care of the indigent is daily becoming a greater proportion of medical practice and is likely to continue increasing, and

"WHEREAS, social welfare agencies are tending more and more to place the medical care of the indigent in the hands of full-time physicians without any choice by the patient, and

"WHEREAS, some county governments are considering, and some have already instituted, full-time medical care for the indigent, and

"WHEREAS, care of the indigent by full-time physicians is in most cases not real economy, and is continually subject to the evils of political interference, be it

"Resolved, that the Council of the Medical Society of the State of New York promulgate plans and rules for the furtherance of free choice of physician for the medical care of the indigent, and from time to time, at least twice each year, advise and instruct the component county medical societies in this regard."

Before coming to any conclusion in regard to this resolution, your Reference Committee consulted the Reference Committee, Report of Council—Part II, and finds that their recommendations are not in any wise affected by this

resolution. As a matter of fact, it simply reiterates principles previously adopted by this Society and places on the record the specific duty for the Council which is in line with the work that they have been doing on this subject. We recommend the adoption of this resolution.

The motion was seconded and as there was no discussion, it was put to a vote, and was carried.

#### 80 Report of the Reference Committee on New Business Con Administration of Welfare Medical Relief Practice

##### Sections 18 65

DR. FLOYD J. ATWELL. Your Committee has considered the resolution introduced by Dr. M. R. Bradner of Orange *in re* Administration of Welfare Medical Practice.

We find that the Council Subcommittee on Public Relations and Economics has already taken up this matter and presented a report thereon which has been considered by the Reference Committee Report of Council—Part II.

The recommendations made by the Reference Committee cover in a much broader manner than Dr. Bradner's resolution the subject of Administration of Welfare Medical Practice. Dr. Bradner's resolution calls for specific changes in the law in considerable detail. The report of the Reference Committee as adopted will provide for changes of this nature at the discretion of the Council. We feel that it would be much better to leave the changes in the hands of an experienced committee who have already made considerable study of the subject than to attempt in a meeting of this kind to decide exactly what changes are to be made.

We are entirely in sympathy with the motives that have prompted the drawing of this resolution. In view of the foregoing we recommend that no action be taken on it at this time.

DR. M. R. BRADNER, Orange. With due respect to the judgment of both these committees involved, I think there should be something more said on this question. It affects principally rural counties. The ones of us who are representing the practice of medicine in rural counties are the ones who should really think about this question a little before we table the resolution.

The present welfare setup has been functioning now for something around seven years under the Emergency Relief under which laws were established giving counties certain privileges and revamping the original poor officer law. Many of these original laws were excellent as they gave the doctor an opportunity to treat his patient and to be paid for treating his patient, until the burden of that amount of welfare work increased to such an extent that it became a public menace as to the cost of it and the taxpayers began to understand it and began to resent the amount that the work was costing them. The doctor was being blamed for he was then charging for work that he had never charged for before and hospitals were charged for their services which they had never charged for before.

About that time the whole setup was turned over to the Public Welfare although Public Welfare guided it from the beginning and it became a fixed law in the state. What has Public Welfare done? We have 60-odd counties in the state, probably 700 or 800 townships,

a dozen or more fairly large cities, and a lot of small cities and there is absolutely no uniform organization in any of those agencies. The custom of developing the poor doctor the public welfare doctor working on a contract basis and very frequently at a ridiculously small salary \$300 a year for taking care of a piece of work which may represent ten times that amount of time on his part is being increased all the time.

There is a universal custom to refuse to pay doctors who treat public welfare charges in a hospital. As soon as these laws have been passed a public welfare recipient ceases to be a recipient of straight work and there is no reason why both the doctor and the hospital should not be paid for their services. Just as it is not possible for a public official to go to the local grocery store and ask them to supply groceries to such an individual free of charge it should not be possible for them to ask either the doctor or the hospital to treat patients free of charge.

Orange County has been fairly well organized now I think, for the last five years under two agreements—one between the Medical Society and the county government, and one between the County Hospital Association and the county government. The county government has co-operated splendidly with the doctor with the exception that certain townships pay no attention to the law and pay no attention to the county government as a whole. A three hundred dollar-a-year social welfare official of a small township has legally the right to tell the doctor to go to the devil and to tell the county government that he will not abide by the rulings of the county government and to refuse to pay a doctor for services rendered on a patient that has been accepted and to refuse to pay frequently a hospital bill that has been rendered.

This resolution which Orange County has sent up here is not a personal resolution of the delegates. It has been considered by the Economics Committee, and incidentally the speaker has been the chairman of that committee for seven years, with the exception of the one year that he was the County President of the County Society and in that year we established the working arrangement with the county government. It has eight clauses but before I speak of that the Department of Social Welfare has had the opportunity to give good organization but they just have not done it. The counties are chaotic. As I said there are no two counties in the state that are uniform. There are probably no two townships in many of the counties that are uniform. Even in Orange County, where we have had seven years of cooperation with the county government, we still cannot say that we have a thoroughly well-organized county. We have our professional advisory body we practically have a single individual who is the Welfare Director, Medical Director and the Department of Social Welfare has taken some guidance from the medical profession this last year. This last year one of the reasons they have taken some is because they know that they have not set up a proper system to work under. They have not proper organization. What they have done is really to develop an extremely expensive and extremely elaborate administrative setup which organizes report and record. For instance, the care of children in the county has been categorically

divided into five classes, each with its own services, each with its own system of accounting, each with its own expenses, and the investigators of one category cannot function in another. The same way with the blind. This is a specific instance. A short time ago a county nurse was asked by a state inspector to see a child who was blind and to take that child under protection. The county representative went to see the child, and did nothing about it, but went back to the county nurse, who reported it to the County Nursing Committee, that she had been sent to see a child who was not under her jurisdiction at all, she only took care of the adults and older blind patients, she could not take care of a child. That is characteristic of the duplication of effort that we are meeting with the State Board of Social Welfare.

This resolution has eight different parts. I am not going to trouble you long, but listen to this. The first part is an attempt to standardize the fees paid to the doctors and to have official recognition of the propriety of those fees. That same paragraph advocates a contract between the Medical Society of the State of New York—not the County Societies—with the government of the State of New York, combining the acceptance on the part of the physician, of the care of all properly authorized welfare patients under the guidance and discipline of the respective County Medical Societies, and the acceptance on the part of the state of a minimum charge fee schedule to be agreed upon, for the treatment of these public welfare patients in office, home, or hospitals.

The second paragraph takes care of the acceptance of a legitimate hospital charge for hospital care.

The third has to do with disputes and arbitrations.

The fourth asks for a uniform type of county organization.

The fifth asks for economies to be effected in those counties to save money.

The sixth asks for a unified organization of township welfare procedure.

The seventh asks for a complete reorganization of the control of the State Department of Social Welfare from the standpoint of economy. Listen to this, this is approximately correct. As of the fiscal year of 1936-37, out of a budget of reimbursement to counties for public welfare expense, \$2,500,000 went for the reimbursement of counties for medical home relief, \$48,000,000 reimbursed the counties for home relief other than medical, and \$77,000,000 were largely unaccounted for, but assumed to be overhead of this tremendous mechanism of administration, control, audit, inspection, etc. You can see the amount of costs that the doctors, as taxpayers, have to bear, aside from professional considerations. The state reimburses the counties 40 per cent of the cost on these two items, and I have it from the Treasurer of Orange County that the mandatory cost to the county made necessary by the regulations of the State Board of Social Welfare cost the county all but about 12 per cent of that reimbursement.

I am going to ask you to reconsider this motion with one change. I don't quite know the parliamentary procedure, but the last paragraph reads

*"Be it further resolved* that these resolutions

be drafted in the form of a bill and presented to the State Legislature."

I would like to change that to read

*"Be it further resolved* that this Society expresses its desire to cooperate in the formulation of remedial measures as may be required."

Here is the reason. Orange County has become very tired of this. There was a time when they considered refusing reimbursement on the ground that they believed they could do a cheaper job and save themselves money by keeping it in their own backyard, but they feel the entire setup is wrong. The object is correct, but the State Board of Social Welfare with the best intentions in the world have built themselves up a sort of Frankenstein, which has interfered with their own efforts. Therefore the laws should be modified—not radically changed, but they should be modified—and there should be an attempt to unify this setup throughout the whole state.

To that effect, there is the possibility this summer that another law will be developed. The Orange County Medical Society and some of us who have been working on this have been asked to cooperate.

We passed this resolution as a medical county. We then presented it to the First District Branch meeting for its approval and recommendation. It is then presented to this body. If this body refuses to act upon it, you can immediately see the effect upon the legislative effort in Orange County, which is to our benefit. We will have to go back and not only tell them that the House of Delegates of the New York State Medical Society is not interested, but more than that the resolution that was passed last night regarding the Constitution and Bylaws prevents Dr. Stivers and myself and our Economics Committee on our County Medical Society from cooperating with these fellows in their attempt to produce a constructive law. So I am going to ask you to pass that resolution.

DR. LEO F. SCHIFF, *Clinton*. Speaking for the Reference Committee, we all realize that the welfare situation is in a bad state. Those of us who have read the reports on page 14 on Medical Relief also should realize that the Committee, of which Dr. Hambrook is the Chairman, has been doing some very constructive work along those lines. We are not going to accomplish anything, rather we are going to hinder things, by trying to turn over the whole structure rapidly with new legislation.

Our Committee consulted with the committee that brought in the report on Part II of the Council's report in reference to the work that was done, and we felt that their recommendations, of which if there is any question I presume we could get a reading at the present time, but it is not necessary, called for a continuation of the work of this committee of Dr. Hambrook's along the very constructive lines they have already shown in their report, with the added possibility of having to introduce legislation should the present setup not be changeable under the present law.

With that in mind, it would seem a great waste of effort for us to specifically tie ourselves up to any one resolution no matter how good its in

tent, how terribly great the incentive to get the change.

After all, Dr Bradner, there are many counties in the state. Many of us see the problem a little differently from Orange County and still there is some way in which we can all work together, and that way is through our appointed representatives who have already been given the mandate to do the work you ask without committing us specifically in this meeting.

I, therefore, ask all of you to vote on the report of the Reference Committee as it stands that no action be taken on this resolution without any disrespect for Orange County or any disrespect for the troubles that they are in.

**SPEAKER FLYNN** Is Dr Brennan the Chairman of Reference Committee on the Report of the Council—Part II in the room?

(There was no response.)

**SPEAKER FLYNN** I would like to ask Dr Irving the Secretary, to read that part of the report of Reference Committee—Part II of which Dr Brennan is Chairman, which speaks about medical relief.

**SECRETARY IRVING** There is just one paragraph that is apposite.

"We feel that the Council has approached the situation with tact and good judgment that they are in intimate contact with the Department of Social Welfare of the State of New York and have gone as far in suggesting measures corrective of abuses as they can under the law as at present constituted. We feel that new legislation relative to Social Welfare and its relation to Medical Practice may become imperative and is perhaps inevitable before evils now existent can be completely eradicated. When such legislation comes up for consideration the Medical Society of the State of New York, through proper committees and through Legal Counsel should seek to participate in the formulation of such legislation and if need be initiate the program."

**SPEAKER FLYNN** The motion before the House is on the adoption of the report of your Reference Committee.

**DR. BRADNER** May I speak one second longer? I should just like to call your attention to the fact that we are not asking for a specific procedure. We are simply stating our opinion that these conditions exist, and we are outlining eight different places where we think there should be improvement. I see no interference with the functioning of the properly appointed committees or their conference with the representatives of the State Board of Social Welfare for us to go on record that we believe these points require alteration, and that we are desirous of cooperating in an effort to straighten up the differences.

**DR. THEODORE WEST** I cannot help but agree with Dr Bradner. I do not think passing his resolution will embarrass the committee that is already working on this medical welfare work. It is unfortunate that these two resolutions or these two bits of business tie in so closely with each other that you can hardly separate one from the other but there do stand out in Dr Bradner's resolution several points that I did not get and which did not seem to be covered by the resolution of the other committee, and that was on this matter of economy of adminis-

tration which I think is the keynote to Dr Bradner's entire bill. With \$25 000 000 paid for medical relief, they paid \$70 000 000 for overhead and administration. That is the thing that Dr Bradner's bill as I understand it, is particularly getting at.

I think this could be approved and the whole bill considered by the Committee on Medical Relief taking into consideration these suggestions of Dr Bradner's. I believe that would be a very good and proper procedure to do because I think that Dr Bradner's work shows outstandingly that the administration of medical relief is decidedly topheavy.

The question being called for the motion was put to a vote and was lost.

**DR. LEO F. SCHIFF Clinton** Inasmuch as this motion which has been lost was that no action be taken at the present time, I will now move that this resolution be referred to the Council for reference to their Committee on Medical Relief. In making that statement—I trust there will not be too much discussion and getting off the subject or any misstatement—I want to call attention first to the last paragraph of the resolution which was in the hands of the Committee. Remember your Reference Committee cannot act on a resolution that is in some doctor's mind or a change that is in his mind but must act on the printed material before it.

*Be it further resolved* that these resolutions be drafted in the form of a bill and presented to the State Legislature.

The objection that your Reference Committee has in committing the State Society to any specific bill is the fact that while this may be particularly applicable to the county in which the originator lives it had not had the breadth of scope that would be brought by having it taken care of by a central committee.

There is nothing in this proposed resolution, as it stands that provides for any economies. The resolution provides for an agreement between this Society and the government of the State of New York combining acceptance of various people about something between the State Hospital Association and the government of the State of New York between the government of the State of New York and the State Medical Society and the provision of a uniform organization. While those may be all very good things gentlemen I do not believe that we have time enough or are we in the right mood to discuss them properly. Therefore the best thing we can do with this, as long as we have voted actually that no action be taken at this time is to refer it to a committee which will study it, and I am sure will confer with Dr Bradner before they take any very radical action.

The motion was seconded.

**SPEAKER FLYNN** Would you like to discuss that Dr Bradner?

**DR. BRADNER** Dr Schiff's point is taken very well. I should also like to make a change in the final paragraph which I think would make it less objectionable. I should like to move that that final paragraph reading as it does now

*Be it further resolved* that these resolutions be drafted in the form of a bill and presented to the State Legislature be changed so as to read

"Be it further resolved that this Society expresses its desire to cooperate in the formulation of remedial measures as may be required"

DR SCHIFF There can be a motion to refer. We have what Dr Bradner has proposed, and he can also bring in his amendment to the Council after it has been so referred to it.

DR BRADNER Yes, and at any rate it is in the minutes.

The question being called, the motion to refer was put to a vote, and it was unanimously carried.

# 81 Report of Reference Committee on New Business B on Aviation Medicine

## Section 32

DR FREDERIC C CONWAY Reporting on resolution of Dr Benjamin Jablons, the Medical Society of the County of New York, reading

"WHEREAS, the problem of national defense encompasses the creation of a huge aviation force of anywhere from 10,000 to 25,000 planes,

"WHEREAS, such a force will create a great many medical problems incident to the proper care and training of a competent personnel, therefore be it

"Resolved that this as a subject be referred to the Council for further study and action for the purpose of disseminating proper information regarding the physiology and medical possibilities of this phase of medicine"

Your Committee approves its adoption.

The motion was seconded, put to a vote, and was carried.

# 82 Report of Reference Committee on New Business B, Changing Education Law in Relation to Roentgenology

## Section 29

DR FREDERIC C CONWAY Reporting on resolution of Dr Theodore West, Medical Society of the County of Westchester, reading

"WHEREAS, 1 The Education Law (Art 48, Section 1250) says 'A person practices medicine within the meaning of this article who holds himself out as being able to diagnose any human or physical condition, and who shall either offer or undertake, by any means or method, to diagnose any human disease or physical conditions', and

"WHEREAS, 2 The Sausser Case decision (Sausser v Health Department of the City of New York, 242 NY 66) says 'making an x-ray photograph is not diagnosis nor (is) mere explanation of what such photograph shows diagnosis', and

"WHEREAS, 3 The court ruling has nullified the Education Law as it relates to the use of x-rays in medical diagnosis, and

"WHEREAS, there is a bill—Williamson—Senate Int 1892 No 2297, which defines roentgenology as the practice of medicine and will correct the error in the Sausser Case decision

"Therefore, be it resolved that the House of Delegates be requested to give its approval to this bill and a copy of this resolution be sent to our Executive Secretary, Dr Joseph Lawrence"

Your Committee moves its adoption.

The motion was seconded and there being no discussion, it was put to a vote and was carried.

# 83 Report of Reference Committee on New Business B on Citizenship as Requirement for Membership

## Section 35

DR FREDERIC C CONWAY Reporting on the resolution of the Medical Society of the County of Ontario presented by Dr Homer J Knickerbocker, reading

"WHEREAS, the Medical Society of the County of Ontario on July 12, 1938, adopted an amendment to its Bylaws, viz, 'Any person of foreign birth applying for membership in the Medical Society of the County of Ontario, shall present documentary evidence of full citizenship in the United States of America, before such application shall be considered by the Society', and

"WHEREAS, although duly reported to the Council of the Medical Society of the State of New York, no definite ruling has yet been obtained relative to the legality of such addition to the Bylaws of the Medical Society of the County of Ontario, therefore, be it

"Resolved that such matters of citizenship as relate to membership be considered as entirely within the jurisdiction of individual County Medical Societies"

Your Committee feels that this should be referred to the Legal Counsel who in turn should refer it to the Council for action.

The motion was seconded and there being no discussion, it was put to a vote and was carried.

# 84 Report of Reference Committee on New Business B on Reduction in Budget of Industrial Council

## Section 59

DR FREDERIC C CONWAY Reporting on resolution presented by Dr Edward C Podvin, reading

"WHEREAS, a recent study of the compensation department made by the Industrial Council determined that more funds than recommended in the original budget submitted by Governor Lehman were needed for its proper administration, and

"WHEREAS, the proposed reduction of \$179,977.00 in the present proposed budget would result in crippling this important service, and

"WHEREAS, this would necessitate the suspension of arbitration hearings, delay the adjudication of cases, and cause resultant hardships and injustice to injured employees and eventually added expense to employers, and

"WHEREAS, the expense of this department is borne by the insurance carriers, be it

"Resolved that this Society express the hope that no reduction will be made which will interfere with the proper functioning of the Workmen's Compensation Bureau, and be it further

"Resolved that the Council be directed to take proper action to convey the attitude of this Society to the proper authorities"

Your Committee approves its adoption.

The motion was seconded and there being no discussion, it was put to a vote and was carried.

# 85. Report of Reference Committee on New Business B on Resolution Urging Continued Support for Health Protection Activities in the State of New York

## Section 73

DR. FREDERIC C. CONWAY Reporting on resolution presented by Dr Burk for the Department of Labor reading

"WHEREAS, many workers in industry are exposed to conditions conducive to occupational injuries and occupational disease, and

"WHEREAS the workers of New York State are entitled to protection against such conditions in order that their health may be preserved at all times and

"WHEREAS, local communities do not possess facilities for the conduct of such work and

"WHEREAS the only health and safety protection in New York State is lodged in the State Department of Labor Division of Industrial Hygiene and

"WHEREAS this unit of the State Government has performed most commendable work and has contributed greatly to the protection of workers against accidents, silicosis, and occupational poisonings, and

"WHEREAS, the physicians of the State of New York feel that these efforts are deserving of the full support of the State of New York

Therefore be it resolved that the Medical Society of the State of New York through its House of Delegates, goes on record in favor of the continuation of these preventive health measures on behalf of the employed population of the State of New York and for the full support of these preventive measures and be it further

Resolved that this action by the House of Delegates be forwarded to the appropriate State Governmental Authorities

Your Committee approves and asks the adoption of this resolution.

The motion was seconded and there being no discussion, it was put to a vote and was carried

# 86. Report of Reference Committee on New Business B on Foreign Physicians

## Section 27

DR. FREDERIC C. CONWAY Reporting on the resolution introduced by the Medical Society of the County of Niagara reading

"Resolved that the Medical Society of the County of Niagara hereby resolve to request the House of Delegates to oppose admission to New York State of foreign or alien physicians"

Your Committee feels that this resolution is unconstitutional and without the jurisdiction of the House of Delegates. *Pro move*

The motion was seconded and there being no discussion it was put to a vote and was carried

# 87 Notice of Submitting Change to Constitution

DR. HOMER J. LUTHERBERRY, Ontario I rise to a point of privilege. Notice is hereby given of a proposal to submit for consideration at the 1940 meeting of this House of Delegates of amendments to the Constitution, Article II, Membership, providing for the establishment of a new classification, to be called probationary,

together with such amendments to other parts of the Constitution and Bylaws as will clarify and implement the proposed amendment or amendments

VICE SPEAKER BAUER This serves as advance notice of a proposed change to the Constitution as required by our Constitution and Bylaws and it will be so recorded in the minutes.

# 88. Report of Reference Committee on the Report of Legal Counsel

DR. M. E. MARSLAND This is a Report of the Reference Committee on the Report of Legal Counsel of which Dr Cunniffe is the Chairman

Your Reference Committee has very carefully studied this very interesting report and is impressed with the enormous increase in the amount of work brought to this department

The report is divided into three sections

A. The actual trial work of malpractice actions before courts, juries and in the Appellate Division

B Counsel work with officers, committees, and different members of the Society

C Legislative advice and activities

A Litigations during the last year—Two hundred and twenty nine cases of malpractice action were concluded as against 217 cases in the previous year Of the 229 cases 55 were settled 108 were successfully completed in favor of the defendant In 6 cases however judgment was rendered in favor of the plaintiff

For some time the counsel has been advising members against careless criticism of the work of another physician before lay people This seems to be the outstanding cause of the institution of the action in most cases

The hazard of malpractice action against a physician is great not alone for the financial loss but also for the damage to his reputation and the great worry and interference with the practice of his profession in defending the action Therefore we urge upon all members, not alone to accept this advice from the counsel but also to try and spread that gospel among the other members

The report calls our attention to the protection given us by the insurance operated under the group plan with the Yorkshire Indemnity Company Counsel also expresses his appreciation of the splendid cooperation of the Insurance company with his office in working under this plan There are many members of the Society who are not as yet insured under this group plan The percentage of members insured has dropped from 57 per cent in 1930 to 40 per cent in 1939

The reason for this should be investigated Probably the outstanding factor is the reduction of the physician's income But just when times are bad suits are more frequently brought; and therefore, the need of the physician for malpractice insurance protection is greater and every effort possible should be made by the Insurance Committee to raise this percentage of insured members

B During the past year the counsel has contributed many articles which were published in the BIRTH JOURNAL These articles have included the following (see pages 80-81, Annual Reports, 1938-1939)

Professional misconduct Falsely advertising cure for cancer  
 Physicians' automobiles Right of way  
 Evidence—Privileged communications  
 Surgeons' right to discontinue operation  
 Validity of amendments to Workmen's Compensation Law upheld by highest courts  
 Libel and slander Authorship of article in medical magazine  
 Injunction to restrain practice of medicine without license  
 Physicians contract restricting practice  
 Lectures and sale of tablets as the practice of medicine  
 Responsibility of municipality for injuries sustained in municipal hospital  
 An interesting fracture case  
 A cancer cure enjoined  
 Illegal practice of medicine by a chiropractor  
 Practice of medicine by corporation  
 Revocation of physician's license upon conviction of crime involving moral turpitude  
 Cancer cure—Responsibility of physician and hospital  
 Practice of medicine by chiropractor

Such a list indicates that the members have an opportunity of receiving a postgraduate course in medicolegal matters by studying these articles

The counsel has also listed 16 different case reports on malpractice actions. This has afforded very interesting reading to the members of the Society, and also issued a warning to the physicians to protect themselves against such suits. This department also receives many requests for opinions or advice on various topics regarding the right and privileges or the advisability of certain actions on the part of physicians.

This report lists 36 different questions on which advice has been asked from our counsel. Many of these questions and answers would make instructive and interesting reading if published in our JOURNAL. These requests come, not alone from members, but also from committees, County Societies, and officers of County and State Societies. In addition, the counsel frequently consults with the doctors associated with the operation of the Workmen's Compensation Law, and advises constantly with the state officers and with officers of various County Societies, giving advice upon the constitutionality of the proposed amendments in the State or the component County Societies.

C. Advice is also given to the various counties of the state organization, the state committee on legislation in regard to bills that are to be introduced into the state legislature. This short summation gives us some idea of the amount of work that is brought to this department and of the fact that it is constantly increasing. We are to be congratulated upon receiving such efficient and meritorious service for this work, entailing, as it does, so many ramifications.

We congratulate our counsel for the wonderful work he has done, and the members of his department for their assistance. We note that this department expresses the appreciation of the generous cooperation furnished by the members of the Society by consultation and court attendance in malpractice actions.

We certainly hope that such a state of affairs

will continue to exist, and that the affairs of the Society will be as successfully protected as at the present time.

I move the acceptance of the report.

The motion was seconded and there being no discussion, it was put to a vote and the report was adopted.

### 89 Report of Special Committee on Proposed Change to Section 7, of Chapter XV—Policies of Component County Medical Societies

#### Sections 15, 58

DR LEO F SCHIFF Your Committee, consisting of Drs Rooney, Redway, and myself, have drawn up a substitute amendment. It is quite evident what the intent of the amendment on page 59 was, but the wording opened a controversy.

I feel we all agree that where the Medical Society of the State of New York adopts through this House of Delegates (the representatives of the component medical societies of the counties) a policy, that shall be the policy of the State Medical Society, and that it is not fitting that any component part of the Medical Society should attack that policy on the outside.

This being a representative form of government, any attacks on such a policy should be made through the organization by resolution in the County Society, followed by action in the House of Delegates, but until the policy is so changed, to the rest of the world that is our policy. It is subversive for any individual member or County Society to attack that policy, which their own delegates have had the opportunity to vote upon in the Society.

To that end, with a slight change of wording so that there shall be no gag rule type of suggestion in the amendment, we have agreed upon the following, which we offer as a substitute for the amendment proposed.

"The component County Medical Societies, their officers or committeemen, shall not initiate or participate in any activities, outside of the structure of the Medical Society of the State of New York, which are contrary to the policies of the Medical Society of the State of New York, as expressed by the actions or in resolutions of the House of Delegates or its authorized representative bodies."

That is done because our policies are delegated to the Council in the interim between meetings of the House of Delegates, and this will permit the construction of a policy of the Council, when so authorized, to be the policy of the State Society until the House of Delegates orders otherwise.

"No member shall in any public paper, discussion, or hearing hold himself by direct statement or implication as representing the Medical Society of the State of New York, or any component County Medical Society, unless he shall actually have been so authorized by such Society, or a legally constituted representative board or committee of same having the power to confer such authority."

I so move.

The motion was seconded.

DR. WILLIAM S COLLENS, *Kings* Could we hear the first part of that resolution, and read it slowly?

June 16, 1939]

Dr. SCHIFF "The component County Medical Societies, their officers or committeemen, shall not initiate or participate in any activities, outside of the structure of the Medical Society of the State of New York which are contrary to the policies of the Medical Society of the State of New York, as expressed by the actions or in resolutions of the House of Delegates or its authorized representative bodies. No member shall in any public paper discussion or hearing hold himself by direct statement or implication as representing the Medical Society of the State of New York or any component County Medical Society unless he shall actually have been so authorized by such Society or a legally constituted representative board or committee of same having the power to confer such authority."

VICE-SPEAKER BAUER A motion has been made to substitute this for the originally proposed amendment. Discussion is now open on the substitution.

Dr. MERWIN E. MARSLAND *Westchester* My feeling is that this substitute resolution contains so much matter which is really new that it practically amounts to a new amendment. I therefore move that this substitute amendment be tabled, to be brought up at the next meeting of the House of Delegates.

The motion was seconded and it was put to a vote and was carried.

VICE-SPEAKER BAUER It is tabled.  
Are there any other committees to report?

#### 90 Vote of Appreciation—Speaker Flynn

Dr. LOUIS A. VAN KLEECK I know you are all tired. We have had a long session but there is one gentleman among us who has worked harder than any of the rest of us. He has conducted this House of Delegates session with equanimity with thought with precision and with dignity. I would like to make a motion to you sir that this House of Delegates by a vote voice its appreciation and thanks for the efficient manner in which Jim Flynn has conducted himself as Speaker of the House. (Applause)

VICE-SPEAKER BAUER From the applause I do not even need to put that to a vote. It is so unanimous.

Dr. FLYNN Thank you very sincerely!

VICE-SPEAKER BAUER Dr. Irving has two or three matters that need attention.

SECRETARY IRVING These have somehow slipped by.

#### 91 Women Physicians' Representation in American Medical Association

##### Sections 24 50

One is a communication from the Women's Medical Society of New York State as follows:

We understand that from 13 to 17 floating delegates are sent from New York State to the A.M.A.

We feel that as Dr. Emily Barringer has been a delegate from New York County it would be a gracious act to include her among the New York State Delegates.

That is signed by Dr. McGuinness, the president.

I move this be received sir.  
The motion was seconded, put to a vote, and was unanimously adopted.

#### 92 Medical Practice Act

SECRETARY IRVING The other also is a communication from the Women's Medical Society of New York State. It reads:

The Women's Medical Society of New York State in meeting assembled, Monday April 24 1939, desires to go on record as protesting the onslaughts against the Medical Practice Act and believe both our Society and the Medical Society of New York State of which we are also members should make a vigorous educational campaign to prevent further tampering with this Act.

I move its acceptance.

The motion was seconded put to a vote and was unanimously carried.

#### 93 Resolution Regarding Investment of Society's Principal in Equities

##### Section 22

SECRETARY IRVING This is a resolution on which as yet no action has been taken.

Resolved that the Board of Trustees be authorized to invest an additional 25 per cent of the Society's investment principal in equities.

I move it.

The motion was seconded and as there was no discussion, it was put to a vote, and was unanimously adopted.

#### 94 Votes of Thanks

Dr. ARTHUR W. BOOTH Before adjourning I want to express by way of a motion our thanks and appreciation to the Committee on Arrangements of Syracuse, the Onondaga County Society and our President Dr. Groat.

The motion was seconded, and the members arose and applauded.

SPEAKER FLYNN Before we adjourn I think that we should have the new President-elect Dr. Borrell escorted to the platform. Is Dr. Borrell here?

(There was no response.)

SPEAKER FLYNN Are there any other committees to report?

(There was no response.)

Dr. SAMUEL B. BURK *New York* I am addressing my remarks to the Speaker. I move you sir that we express a vote of thanks and appreciation to Dr. Bauer for the capable manner in which he as Vice-Speaker has conducted this meeting. I ask for a rising vote of thanks.

SPEAKER FLYNN That is well deserved.

The audience rose and applauded.

SPEAKER FLYNN Is there any further business to come before the Society?

Dr. WILLIAM M. PATTERSON *New York* I move also that a vote of thanks be extended to the efficient Secretary of the Medical Society of the State of New York.

The audience rose and applauded.

SPEAKER FLYNN There being no further business all reference committees having reported all resolutions having been acted upon, having transacted all our business, the reference committees are discharged with sincere thanks, and the House of Delegates stands adjourned sine die.

(The session adjourned at 12 35 P.M. sine die.)



# INDEX OF MINUTES OF HOUSE OF DELEGATES

*The Index covers the entire Minutes of the House of Delegates*

June 1 Issue

June 15 Issue

| Sections | Pages     | Sections | Pages     |
|----------|-----------|----------|-----------|
| 1-10     | 1126-1134 | 58-60    | 1209-1218 |
| 11-20    | 1134-1139 | 61-70    | 1218-1230 |
| 21-30    | 1139-1142 | 71-80    | 1230-1242 |
| 31-40    | 1142-1145 | 81-90    | 1242-1245 |
| 41-50    | 1145-1154 | 91-94    | 1245      |
| 51-57    | 1154-1160 |          |           |

*All references are to sections*

- American Medical Association Medical Care Survey, 65, Special Session 40, Women Physician Delegates 24 50 91  
 Annual Meeting Arrangements, 37  
 Audit 61  
 Auditor's Report, A Few Facts from the, 61  
 Aviation Medicine 32, 81  
 Basic Science Law, 34, 76  
 Bronx County Medical Society Instructions to Delegates, 70  
 Budget Income for Appropriations, 10, 61  
 Cancer Control 46  
 Censors, Board of Reference Committee Report on Report 39  
 Chiropractors Basic Science Law, 34, 76  
 Constitution and Bylaws Amendments Contracts, Execution of 58 61, Dues Year, Change of, 58  
 Notice of 1940 Amendments 87, Policies of Component County Medical Societies and Reconsideration, 58, 89, Revision, 58  
 Contract Practice, 52 78  
 Council Actions of Meetings, 28 41  
 Council Reference Committee's Reports  
   Part I Introduction 46 Postgraduate Medical Education and Supplementary 8, 46, Public Health Matters and Supplementary, 8, 46, Maternal Welfare 46  
   Part II Medical Care Surveys in New York State 65  
   Medical Relief 65  
   Part III Medical Expense Nonprofit Indemnity Insurance and Supplementary, 7 30, 67, Workmen's Compensation and Supplementary 9, 66  
   Part IV Legislation and Supplementary, 6, 74 Publications and Medical Publicity, 74  
   Part V Annual Meeting Arrangements, 37, The Late Dr Frederick H Flaherty 37, 'M D' License Plates 37 New York State Board Nominations, 37, Malpractice Group Plan Insurance, 37  
 Credentials Reference Committee Report, 1  
 Delegates From Other State Societies, 14  
 Dietetic Institutes 8 40  
 Directory Publication 51, 61, 63  
 District Branches Appropriations, 62 Report of Reference Committee on Report, 40  
 Elections Delegates to American Medical Association 68 Officers 68  
 Expenditures Five Year Study of, 61, 64  
 Financial Study Committee on 13, 45, 72  
 Fiscal Adviser 61  
 Flaherty, Dr Frederick H In Memoriam, 37  
 Foreign Physicians Citizenship for Membership 35, 83 Admission to Practice, 27, 86 Restrictions of Licensure, 13, 45, 72  
 Gastroenterology and Proctology Section, 37  
 Health Program, New York State Temporary Commission to Formulate a 65  
 Health Protection Activities in New York State 73 85  
 Internship Requisite for License to Practice Medicine 33, 75  
 Investment of Principal in Equities 22, 93  
 Legal Counsel Report of Reference Committee on Report, 88  
 Legislation Legal Counsel Assistant 53 74 Physician Assistant 74, Supplementary Report, and Report of Reference Committee on Reports 6 74  
 Legislative Bulletin Service, 74  
 License Plates, "M D," 37  
 Licensed Physicians New Registrations in New York State, 18 42  
 Licensure of Physicians Internship Requisite 33, 75  
 Malpractice Insurance Changes in Group Plan Rates and Coverage 37  
 Marvin, Rolland B Address of Mayor of Syracuse 11  
 Maternal Welfare 46  
 Medical Care Surveys in New York State 65  
 Medical Expense Indemnity Nonprofit Insurance, 7 30, 67  
 Medical Practice Act Internship Amendment, 33, 75  
 Opposition to Any Changes 92  
 Medical Publicity, 74  
 Medical Relief Administration, 19 65, 80, Free Choice of Physicians, 31 70  
 Minutes of the 1938 Session, 4  
 New York State Board Nominations 37  
 New York State Department of Education Director of Division of Health and Physical Education, 36, 77  
 New York State Library 28, 56  
 Officer's Expenses 62  
 Offices Centralization of, 62  
 Ophthalmological Public Relations Appointment of Special Committee, 20 47  
 Osteopaths Millroe Assembly Bill Int. 1428, 25, 54  
 Physicians Distribution in New York State 65, New Registrations, 18, 42, Nonmembers, 13, 45, 72  
 Race, Color, or Creed Restrictions, 16, 49  
 Physicians' Home, Inc. Board of Directors, 17 55  
 Pneumonia Control, 46  
 Postgraduate Medical Education, 8 46  
 President Address, 12, Reference Committee Report on Report, 44  
 Presidents Dinners, 61  
 President-elect Address Reference Committee Report and Reconsideration, 13, 45, 72  
 Principles of Professional Conduct Contract Practice, 52, 78, New Licensees, 18, 42, Revision, 57  
 Prize Essays, 71  
 Public Health Matters, 8, 46  
 Public Medicine Assembly Bill Int 523, 23, 43  
 Publications, 74  
 Race Color or Creed Restrictions on Physicians, 16, 49  
 Reference Committees 5  
 Retired Members Election 69  
 Roentgenology Amendment to Education Law, 29 82  
 Roll Call, 2  
 School Funds Reallocation 8, 46  
 School Health Work 8, 40 21, 48  
 Scientific Assembly Committee, 37  
 Secretary Reference Committee Report on Report 38  
 Speakers' Service Bulletins 74  
 Suiter Lectureship, The A Walter, 37  
 Sulfanilamide, 8, 46  
 Technical Exhibits, 37  
 Treasurer Supplementary Report and Report of Reference Committee on Reports, 10, 60, 61  
 Trustees, Board of Report of Reference Committee on Report and Questions Asked 61, 62 Supplementary Report, 64  
 Workmen's Compensation Industrial Council Budget Reduction 59 84, Supplementary Report and Report of Reference Committee on Reports 9 66  
 Workmen's Compensation Bureau, 13 45 62, 72

# Public Health Notes

J ROSSLYN EARP, L R C P, Dr P H  
New York State Department of Health

## At the A M A Convention

DR. ROBERT E. PLUNKETT on May 15 described to the convention at St. Louis the three point program of our division of tuberculosis: (1) direct service to the people examined and studied, their families and communities, (2) research and (3) education.

As regards our service to those who have, or may be suspected of having tuberculosis, he emphasized two essential features, namely, the wholehearted cooperation of the medical profession and the central position of the tuberculosis hospitals. Through each hospital center there is provided a continuity of medical service from case finding through treatment to aftercare. Tuberculosis is a community and a family problem but in the administration of tuberculosis control in this state, certainly as long as Dr. Plunkett has anything to do with it, we shall never be allowed to forget that the sick individual is a person, not just a case.

The three new state hospitals have been in operation for approximately three years and during the past two full years of clinic administration, 21,804 individuals have been examined. About half

of these were examined because of contact with known cases, and 67 per cent of the new cases discovered among these "contacts" were in the minimal stage of the disease. Among patients examined because of symptoms referable to the chest, 40 per cent were in the minimal stage. In every 1,000 cases examined, 31 were found to have tuberculosis.

Each hospital is a center not only of medical service but also of teaching and of research. The division of tuberculosis has some research projects that are centered at Albany of which again some are carried entirely on their own responsibility and some in cooperation with other departments of the state government. Some of the work undertaken in conjunction with the Department of Mental Hygiene is producing results that promise to be of great significance. There is also the study of 5,000 adult admissions to fourteen general hospitals from which Dr. Plunkett is able to conclude, assuming that the same conditions prevail throughout the U. S., that some 45,000 cases of unrecognized pulmonary tuberculosis were admitted to general hospitals last year.

---

## PUBLIC HEALTH CONFERENCE AT SARATOGA

The date for the annual conference of New York State health officers and public health nurses is June 27-29. Following the usual custom the conference will be at Saratoga Springs, with headquarters in the Grand Union Hotel.

It is expected that this state-wide conclave

will attract nearly 2,000 health officers, nurses, school physicians, public health workers and state officials from every county and community in the state. It planned to have outstanding persons in the public health and medical fields give addresses at the many meetings scheduled.

---

## SERIOUS SIDE OF SUMMER PLAY

The importance of proper health supervision over summer camps is indicated by the fact that in New York State alone there are approximately 3,000 camps occupied by from two to three million persons a year and that a considerable num-

ber of outbreaks of preventable disease occur in these camps each year, said Dr. C. A. Holmquist, Director of the Division of Sanitation of the New York State Department of Health at the meeting of the State Society at Syracuse.

# The Woman's Auxiliary

## To the Medical Society of the State of New York

You missed a treat if you did not attend the Fourth Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York held in Syracuse in April. Mrs. John Buettner, the capable chairman of convention, with her staff of efficient committee assistants guided delegates and friends through three days of delightful entertainment.

"Business before pleasure" gave the House of Delegates the privilege of opening the convention. Mrs. Daniel Swan, our state president, presided. From the interesting and instructive reports of the chairmen of the various committees and the report of the president, the members of the auxiliary delegation had the satisfaction of reviewing a busy and successful year. Reports of county auxiliary presidents gave some idea of the varied activities and interests of the different units.

High lights of entertainment, long to be remembered with pleasure, were the banquet and Henry Scott, the talented pianist and humorist, the delightful luncheon at the Onondaga Country Club, the musicale and tea at the Museum of Fine Arts. The Hobby Show proved that doctors and their wives have a variety of interests aside from that of health.

Back of the success of this convention were hours of planning and preparation, and for this and for their gracious hospitality the Woman's Auxiliary of New York State extends a vote of thanks and appreciation to the Woman's Auxiliary to the Medical Society of Onondaga County.

Officers elected for the coming year: Mrs. Scott Towne, president, Mrs. Luther Kice, president-elect, Mrs. John Buettner, first vice-president, Mrs. Robert Crockett, second vice-president, Mrs. Carlton Potter, treasurer, Mrs. J. E. Noll, recording secretary.

Directors are Mrs. Edwin A. Griffin and Mrs. Daniel Swan. (A complete list of

officers and their addresses can be found on page 1250.) To the American Medical Association convention to be held in 1940, in New York City, twelve delegates and their alternates were elected from the New York State Auxiliary.

To Mrs. Daniel Swan, our retiring state president, is extended a vote of appreciation for her able direction during the past year.

Greetings and loyal support to our new president, Mrs. Scott Towne, with the sincere hope that her term of office will prove pleasant and successful.

### Cayuga County

The regular meeting of the Woman's Auxiliary to the Medical Society of the County of Cayuga was held May 18, 1939, at Auburn City Hospital. Mrs. Raymond Johnson, the president, presided. During the business meeting a unanimous vote was taken to send a girl to Scout Camp as a summer project of the auxiliary.

Interesting reports were given by Mrs. J. D. Sands and Mrs. G. C. Sincerbeaux, delegates to the state convention held in Syracuse in April.

The annual dinner to the doctors to be held at Springside Inn in June will mark the beginning of the summer recess.

### Nassau County

The monthly meeting of the Woman's Auxiliary to the Medical Society of the County of Nassau was held Tuesday, April 18, at the Nassau Hospital Auditorium in Mineola. Mrs. Luther Kice, president, presided. Guest speakers were Dr. Eugene Calvelli, Port Washington, President-elect of Nassau County Medical Society, and Dr. Eugene Coon, Hempstead, Chairman of Legislation.

Dr. Calvelli gave a brief history of the society and then spoke of the St. Francis Cardiac Convalescent home.

Dr Coon spoke of current legislation and described the stages through which a bill advances from the time it is drafted until it is passed by the legislature.

Delegates to the state convention at Syracuse were Mrs. Kice, Mrs. Bell, Mrs. Hirsch, Mrs. Van Kleeck, all state officers, and Mrs. Lally, Mrs. Connolly, Mrs. Welge, Mrs. Schirck, and Mrs. Baldwin.

The auxiliary dinner dance was held May 5 at the North Hempstead Country Club, Port Washington. Mrs. Willard Lee, program chairman was assisted by Mrs. Clymer Long and her committee.

Undoubtedly the most outstanding meeting of the current year of the Woman's Auxiliary to the Nassau County Medical Society was the meeting held at the Nassau Sanatorium at Farmingdale on Tuesday, May 23.

Dr. Walsh was host to the auxiliary members and showed most interesting lantern slides covering various phases of field work in the control of tuberculosis. Dr. Walsh also enlightened the members with the heartening information that a considerable decrease in the death rate of Nassau County has taken place since 1920.

The sanatorium proper consists of 416 beds of which 112 are for children. It was founded by the late Dr. Davis in May, 1920, and constitutes a rather inspiring memorial to the work in the field of tuberculosis by its founder. A very delightful tea was served at the nurses home by Mrs. Kniffen and Mrs. Hubbel, members of the hospital board.

At the meeting, over which Mrs. Luther Kice presided, the auxiliary voted to become a member of the Nassau County Public Health Nursing Council. Two members will represent the above mentioned body at all of its meetings.

Reports were tendered by those delegates attending the State Medical Convention held at Syracuse. Mrs. Spencer Caldwell, chairman of the hobby show, gave an interesting report to the effect that Mrs. Henry Hirsch, of Rockville Centre, sent the most outstanding hobby

exhibit to the convention. Other reports were read by Mrs. Burke, Mrs. J. Connolly, and Mrs. Carl Welge.

The auxiliary members were delighted to have Mrs. Luther Kice made President elect of the New York State Woman's Auxiliary for 1940. Other officers gaining chairs were Mrs. Louis Lally as convention chairman, and Mrs. L. A. Van Kleeck as chairman of the finance committee. The 1940 convention will be held in New York City at the Waldorf Astoria Hotel.

The annual luncheon of the Nassau County Auxiliary will be held at the North Hempstead Country Club on June 21. Golf and bridge will furnish after luncheon recreation.

### Orange County

On April 4 the Woman's Auxiliary to the Medical Society of Orange County held its first meeting of the year at the home of the president, Mrs. H. F. Pohlmann, in Middletown. Following the business meeting during which four new members were greeted, there was a round-table discussion on the health insurance problem of today. This was very ably arranged and led by Mrs. W. H. Snyder of Newburgh.

Delegates named for the state convention in Syracuse were Mrs. Pohlmann, Mrs. Noll, and Mrs. Murray.

The auxiliary again accepted the kind invitation of Mrs. Pobe, of Port Jervis, to hold its June meeting at her summer home at Twin Lakes, Pennsylvania. Those who attended last year will remember her charming hospitality.

At an executive meeting of the auxiliary held April 18, at the home of Mrs. Snyder in Newburgh, plans were completed for a Health Institute sponsored by the Woman's Auxiliary and arranged by the Medical Society of Orange County. The institute was held in the amusement hall of the State Hospital in Middletown on May 9. The program was especially interesting and was attended by about 250 guests. The program included greetings from Dr. R. C. Woodman, Super-

intendent of the Middletown State Hospital and from Dr H F Morrison, of Tuxedo, President of Orange County Medical Society Speakers introduced by Dr Theodore Neumann, of Central Valley, were Dr E C Waterbury, of Newburgh, who gave an address on "Trends in Health Insurance", Dr Harry L Chant, our District Health Officer who spoke on "Marriage Laws and Social Hygiene", Dr J E Noll who spoke on "Pain as an Evidence of Disease" These talks were followed by the motion picture "The Birth of a Baby"

### State News

Mrs G A Green, 122 S Second Ave, Mechanicville, New York, as state program chairman, requests each county president

to discuss with her program chairman plans for some social event to be held, if possible, during this summer recess from meetings A contribution from the proceeds is to be sent to our state treasurer, Mrs Carlton Potter, 425 Waverly Ave., Syracuse, who will forward it to the Physicians' Home This project was adopted at the state convention recently held at Syracuse, under the sponsorship of program chairmen throughout all the counties, so that each will share the contributions for this worthy cause. Program chairmen are to send to Mrs Green, by October 1, reports in duplicate of activities from the period of April 1 to October 1, and to incorporate the amount donated, if possible at this time, to the Home

## The Officers of the Woman's Auxiliary to the Medical Society of the State of New York

### President

Mrs G Scott Towne  
150 Phila Street  
Saratoga Springs, N Y

### President-Elect

Mrs Luther H Kice  
95 Brook Street  
Garden City, N Y

### Directors for One Year

Mrs John L Bauer  
984 Bushwick Avenue  
Brooklyn, N Y

### First Vice-President

Mrs John Buettner  
106 Strathmore Drive  
Syracuse, N Y

### Second Vice-President

Mrs Robert Crockett  
Oneida, N Y

Mrs James M Dobbins  
42-04 Ditmars Boulevard  
Long Island City, N Y

### Recording Secretary

Mrs J Emerson Noll  
19 Elizabeth Street  
Port Jervis, N Y

### Directors for Three Years

Mrs Daniel J Swan  
141-54 Northern Boulevard  
Flushing, N Y.

### Directors for Two Years

Mrs Francis R Irving  
119 Wendell Terrace  
Syracuse, N Y  
Mrs Herman W Galster  
341 Mohawk Avenue  
Scotia, N Y

### Treasurer

Mrs Carlton Potter  
425 Waverly Ave  
Syracuse, N Y

Mrs Edwin A Griffin  
311 Garfield Place  
Brooklyn, N Y

### Corresponding Secretary

Mrs James H Donnelly  
619 Grand Street  
Troy, N Y

## The following are chairmen of the standing committees

### Archives

Mrs Frederic E Elliott  
122-76th St  
Brooklyn, N Y

### Hygiene

Mrs Stanley P Jones  
Mattituck, N Y

### Printing & Supplies

Mrs H L Gokey  
Alexandria Bay, N Y

### Convention

Mrs Louis M Lally  
27 Verbena Ave  
Floral Park, N Y

### Legislation

Mrs Albert Vander Veer, 2nd  
12 Haris Ave  
Albany, N Y

### Program

Mrs George A Green  
124 South Second Ave.  
Mechanicville, N Y

### Finance

Mrs Louis A Van Kleeck  
29-30 Northern Blvd  
Manhasset, N Y

### Organization

Mrs Thomas C Bullard  
103 Church St  
Schuylerville, N Y

### Public Relations

Mrs S W S Toms  
120 South Broadway  
Nyack, N Y

### Historian

Mrs Hugh G Henry  
P O Box 215  
Germantown, N Y

### Press & Publicity

Mrs George B Adams  
149 North Street  
Auburn, N Y

### Parliamentarian

Mrs Olin J Mowry  
Minetto, N Y

# Medical News

## Doctors Told to Keep Up to Date

**D**OCTOR Terry M. Townsend, President of the Medical Society of the State of New York, told 3,000 doctors attending a State Medical Association Day meeting at the Goodrich Arena at the World's Fair on May 31 that "doctors today must go back to school again and keep in step with progress."

He said that membership in county, state, and nation wide societies stimulate interest through the interchange of ideas and experiences, and helps to keep doctors informed on technics and treatments.

Dr. Townsend declared that doctors frequently are called upon to face emergencies where immediate and accurate diagnoses are vital and that the best modern methods should be available for making these decisions.

Dr. Philip I. Nash, President of the Kings County Medical Society, urged doctors to join in seeking readjustment of medical conditions throughout the country without federal intervention. He said that he believed that a system of voluntary health insurance should be worked

out to the best interest of the public which would enable doctors to receive compensation for their work and at the same time assist all who need aid. Dr. Emily Dunning Barringer, President of the Women's Medical Association of New York, also spoke.

Dr. Max Einhorn, professor emeritus of medicine at the New York Post-Graduate School of Medicine, speaking in the Medicine and Public Health Building at a pre-convention of the National Gastroenterological Association, advised doctors against accepting such rules established either by members of the profession or other persons. Such rules, he said, might prevent the doctor from using his own discretion in certain individual cases where his own opinion would be more valuable.

'There has always been freedom of thought and practice in medicine and there has been no time that such freedom has been needed as much as today when such great scientific studies and progress are being made,' he added.

## County News

### Broome County

Dr. M. J. Whitelaw addressed the Broome County Medical Society at Binghamton on May 9 on 'A Theoretical and Clinical Consideration of Ovarian Hormones'. Discussion was opened by Drs. S. B. Blakely and R. J. McMahon.

Binghamton City Hospital was turned into a classroom on April 19 when nearly 200 Southern Tier physicians and surgeons assembled in the institution for their annual clinic-day program.

Highlighting the list of speakers was Dr. I. C. Rubin, of New York City, who

addressed the concluding session on 'Diagnostic and Therapeutic Value of Tubal Insufflation in Sterility'.

A complimentary dinner, served in the institution's main dining room, preceded the night session.

Afternoon was taken up with a symposium on 'Disturbances of the Gastro-intestinal Tract,' conducted by the following: dental, Dr. James T. Ivory, pediatric, Dr. Florence E. Warner, medical, Dr. Carl S. Benson, surgical, Dr. Hyman Sneiferson, and obstetrical, Dr. Harry I. Johnston.

Women's board of the hospital served a tea following the afternoon program and Dr Frank M Dyer, member of the hospital board, discussed the new \$425,000 addition being erected on the grounds.

The morning and early afternoon program included demonstrations by Dr Victor W Bergstrom, Director of Kilmer Pathological Laboratory, visits to wards and operating rooms.

### Chautauqua County

Dr Robert L Faulkner, senior clinical instructor in gynecology at Western Reserve University, spoke on "Cancer of the Cervix" at the meeting of the Jamestown Medical Society on April 27 at Hotel Jamestown. He showed motion pictures and slides on the subject and also a film showing the diagnosis and treatment of *Trichomonas vaginitis* with silver picrate. Dr Homer M Wellman presided and Dr Ernest J Kelley, Jr, introduced the speaker.

The society met on May 25 at the hotel when Dr Oscar J Oberkircher, of Buffalo, spoke on "Urinary Infections and Their Management." The final meeting of the season will be the annual session, spring golf tournament, and election of officers at the Moon Brook Country Club on June 29.

### Cortland County

Dr Emory A Didama, of Cortland, who died on April 14, aged seventy-seven, had practiced medicine there over fifty years.

### Erie County

The importance of the general practitioner in the battle for control of cancer was stressed by Dr Louis C Kress, Chairman of the New York State Committee of the American Society for the Control of Cancer, as chief speaker on the special program in observance of cancer month before the Medical Society of Erie County in Buffalo on April 17.

Dr Burton T Simpson, Director of the State Institute for Treatment of Malignant Diseases, expressed the con-

viction that mortality can be cut in half if every general practitioner does his part in the fight for control.

Dr Karl F Eschelmann, Director of the Tumor Clinic at Edward J Meyer Memorial Hospital, explained the functioning of that department of the city institution. Dr Edward C Koenig, radiologist at Buffalo General Hospital, and Dr Leon H Smith, chairman of the cancer committee of the county society, likewise participated in the program.

Air conditioning not only is useful in promoting the general health of the public but has been proved effective in the treatment of disease. Dr Albert G Young, Medical Director of the Corey Hill Hospital, Brookline, Mass, declared on April 26, at a meeting of the Air-Conditioning Council of Western New York at which hospital officials were present.

Describing the results of a study into the physiologic effect of air conditioning made at Corey Hill Hospital, one of two hospitals in the country having complete air conditioning in all departments, Dr Young told his listeners that air conditioning has effected a startling reduction in postoperative pneumonia cases.

Out of 2,110 surgical operations performed in the hospital in the last two and one-half years, postoperative pulmonary complications developed in only one-quarter of 1 per cent of the cases, as compared with an average of 6 or 7 per cent in nonair-conditioned hospitals, Dr Young said.

Corey Hill Hospital also boasts an average of only  $1\frac{7}{8}$  per cent postoperative mortality, as contrasted with the  $4\frac{1}{2}$  per cent average reported by other hospitals, he declared.

The confinement time of patients under treatment for rheumatism has been cut to about 40 per cent as a result of air conditioning, Dr Young added. Air conditioning also has brought welcome relief to hay fever sufferers being treated at the hospital, and has produced definite benefits in the treatment of heart disease.

### Fulton County

Dr Descum C McKenney, of Buffalo, spoke on "Diseases of the Excretory Organs" at a meeting of the Medical Society of Fulton County, in the Hotel Johns town on April 20

The session was held in the coffee shop with thirty five members present. Refreshments were served at the close of the program

### Jefferson County

The Medical Society of Jefferson County made preliminary plans for the establishment of a nonprofit medical insurance plan during the monthly dinner meeting at the Black River Valley Club, on April 13

Dr W Webber Young, chairman of the society's economic committee, submitted his committee's report on the insurance plan for medical expense indemnity and it was discussed by the society

The society accepted and approved the principles of the plan which offers medical insurance to persons of low incomes at nominal premiums. The plan offers medical services only

Seven physicians were elected to form a nucleus for establishing the medical insurance organization. They are Dr W Webber Young, Dr George B Van Doren, Dr Harlow G Farmer, and Dr Charles A Prudhon, all of Watertown, Dr Frederick G Metzger, Carthage, Dr Harold L Gokey, Alexandria Bay, and Dr Harlow E Ralph, Belleville

A course of lectures on heart disease, sponsored by the Council on Public Health and Education of the Medical Society of the State of New York, and arranged by the New York Heart Association for the members of the St. Lawrence and Jefferson County medical societies, were given in Ogdensburg and in Watertown, May 4, 11, and 18

On May 4 the subject was "The Degenerative Forms of Heart Disease (Hypertension and Arteriosclerosis)" The speaker was Dr Lewis A Conner of New York City

On May 11 the subject was "Rheumatic and Syphilitic Heart Disease." The speaker was Dr Cary Eggleston of New York City

On May 18 the subject was "Acute Cardiovascular Emergencies" The speaker was Dr John E Detrick, of New York City

Arrangements will be made to present two other lectures in the fall. They will be 'The Use of X ray and Fluoroscopy in the Management of Heart Disease,' by Dr Harold E B Pardee, of New York City, and 'Therapy in Heart Disease' by Dr Harry Gold of New York City

### Kings County

A testimonial dinner was tendered on May 6 at the St George Hotel to Dr Philip I Nash, President of the Medical Society of the County of Kings, by the medical profession of Brooklyn

Some of the high lights which stand out in the detailed report of the directing librarian of the Medical Society of the County of Kings and the Academy of Medicine of Brooklyn for 1938 are

Greater use made of library than in previous year

Maintenance of and slight increase in financial support for literature purposes by individuals, groups, and organizations

A larger number of new publications added than in 1937

More volumes added by purchase from various funds than in preceding twelve months.

Some additions to our collection of rare and interesting older works.

A considerable number of complete sets of important journals acquired or completed during the year

Greater amount of binding done.

Increase in cataloguing work.

Addition of page boy to our personnel

Urgent Needs

Enlarged accommodations

Bequests and endowment.

### Monroe County

At the regular meeting of the Medical Society of the County of Monroe, on Tues



day evening, May 9, in the auditorium of the Rochester Academy of Medicine, Dr Frederick W Williams, Associate Physician, and Chief of Diabetic Clinic, Morrisania City Hospital, New York City, spoke on "Modern Concepts of Diabetic Lower Extremities Lesions "

### New York County

Dr Tracy J Putnam, Professor of Neurology at Harvard University and Neurologist-in-Chief of the Boston City Hospital, has been appointed Professor of Neurology and Neurosurgery at the Columbia University School of Medicine. He also will become the Director of Services of Neurology and Neurosurgery at the Columbia-Presbyterian Medical Center.

Dean Rappleye also announced the appointment of Dr Vernon W Lippard, Director of the Commission for Study of Crippled Children of New York City, as Assistant Dean of the School of Medicine, and resignation of Assistant Deans Charles A Flood and Lawrence W Sloan.

Dr Alexander Lambert, of New York City, who was director of the American Red Cross medical work in France in 1917 and a leader in research to aid drug addicts, died on May 9 in the Doctors Hospital, of which he was a founder, in his seventy-eighth year. He had been ill for a long time.

Dr Lambert was elected President of the American Medical Association in 1919. He had served as President of the Medical Society of the State of New York.

For many years, Dr Lambert devoted a major part of his time to the study and treatment of alcoholic and narcotic addiction. It was largely because of his initiative that the Doctors Hospital was founded. He was president of its medical board until his death.

Dr Joseph A Dillon, of New York City, national President of the Federation of Catholic Physicians' Guilds and editor of its official publication, *The Linacre Quarterly*, died on May 3 at his home, 1065 Lexington Avenue, after an illness of six weeks.

Dr Harrie A James, of New York City, seventy-eight, obstetrician who brought between 12,000 and 13,000 babies into the world during his forty-five-year practice, died on May 2 at his home, 13 West 120th Street. He had been ill four years.

Dr Lawrence J Osborne, seventy-three, a physician on the upper west side, New York City, for more than forty years, died at his home, 308 W 78th St on April 28.

Dr Osborne was stricken as he was leaving his home, medical bag in hand, to answer a call. He suffered a stroke.

### Oneida County

Seventy-five doctors and dentists were present on April 20 at the Hotel Utica, in Utica, to hear Dr Joseph Eidelsberg, chief physician of the endocrine clinic, Post-Graduate Hospital, New York.

"The continued progress of clinical endocrinology," the speaker said, "promises a widening application of the use of male sex hormone therapy."

The visiting doctor discussed the use of a new synthetic chemical which he said has been giving miraculous results in hormone unbalance.

The session was the joint annual meeting of the Utica Academy of Medicine and the Utica Dental Society.

### Ontario County

The Ontario County Medical Society, at its April meeting in the Clifton Springs Sanitarium, adopted a resolution in support of group hospital service insurance. Sixty-four members were present, almost the entire membership. The resolution was supported by a unanimous vote.

Dr Alfred W Armstrong, of Canandaigua, presided. After dinner at the sanitarium, addresses were given by Dr Paul V Newland and Dr Adrian S Taylor, illustrated by slides and patients.

### Queens County

Dr James R Reuling, Jr, Bayside, has been elected President of the Queens-

boro Tuberculosis and Health Association, Inc., to succeed the late Dr Carl Boettlger

The campaign of the association for x ray tests in the fight against tuberculosis has resulted during the last year in more than 10,000 examinations being made in Queens About 4 per cent of those examined showed need for medical advice.

Prominent Queens physicians were guests at a steak and beer party of the Kew-Forest Medical Association in the Kew Bolmers Apartments, Kew Gardens on April 26 The association was organized recently

A paper on "Abnormal Bleedings in Females" was read by Dr Thurston Welton, Obstetrician and Gynecologist, Long Island College Hospital, and Consultant Gynecologist at Southside and Brunswick hospitals on May 5 before the Medical Society of the County of Queens

#### St. Lawrence County

About thirty physicians were present at the joint dinner meeting of Potsdam and Ogdensburg medical societies on April 20 at the Crescent Hotel in Ogdensburg

Dr Robert J Reynolds, of Potsdam, in an interesting paper traced the history of sulfanilamide and sulfapyridine drugs and their use in treatment of Type III pneumonia, the most severe form, which is usually 80 per cent fatal With the use of these drugs, fatality has been reduced to 20 per cent, Dr Reynolds stated.

Dr Frederick E Clark, Dr Louis J Benton, and Dr Lauchlin J Baker were appointed a committee to make arrangements for a meeting at the Ogdensburg Country Club in August, when members of the St. Lawrence County Medical Society and their wives will be guests of the Ogdensburg Medical Society

#### Suffolk County

Dr Frank Everett Benjamin, seventy-one of Riverhead, former President of

the Suffolk County Medical Society, died on April 30 at his home following a heart attack suffered several weeks previously

Dr Benjamin was a director and one of the organizers of the Long Island State Bank and Trust Company and a member of the staffs of the Southampton Hospital and the Mather Memorial Hospital at Port Jefferson

#### Sullivan County

Dr Rosetta Sherwood Hall, of Liberty, celebrated in April her first half hundred years" of practicing medicine. Local papers said she was busy planning a golden reunion of the dozen surviving women who graduated with her from the Women's Medical College of Pennsylvania. Dr Hall was the youngest of the class of 1889, it numbered forty-one

She worked in the East for forty five years, under Methodist auspices, establishing four women's hospitals and educational work for the blind and deaf Upon completion of her first twenty five years of medical practice, she was awarded a certificate of merit and a silver cup by the government of Korea.

One of the institutions that she founded was the Women's Medical College of Korea

#### Tompkins County

'One retired member and one active member of the Tompkins County Medical Society have recently died, and I am enclosing the notice for the JOURNAL.

April 12 1939—Dr Wilber G Fish, of Ithaca, N Y a graduate of Cleveland Medical College in 1893 Dr Fish was a past president of Tompkins County Medical Society He died at the age of eighty from prostatitis and nephritis.

April 26, 1939—Harvey L Van Pelt, of Ithaca N Y, a graduate of Cornell University Medical College in 1902 He was a member of the New York State Medical Society and of the A.M.A. He died at the age of sixty-one from a fractured skull and punctured lung due to

being hit by an automobile"—*Reported by William Wilson, M D, Secretary Tompkins County Medical Society*

### Ulster County

An outbreak of septic sore throat has occurred in Malden, Cementon, and Saugerties, according to Dr Edward S Godfrey, Jr, State Commissioner of Health. A report states that all the approximately 500 cases occurred among consumers of raw milk supplied by one dealer. Most of the milk consumed in Malden and Cementon is supplied by this dealer, but only a small fraction of the Saugerties supply is thus furnished. Three of the victims died.

The dealer supplied both pasteurized and raw milk, and all the cases are apparently confined to persons consuming the raw milk he furnished. As soon as the outbreak was discovered he ceased distribution of all milk, pending investigation.

Within two hours after it was determined that raw milk was the source of the outbreak, health authorities discovered the cow that was spreading the disease and ordered the animal killed.

### Westchester County

The big fun day for all the sportsmen, funsters, gourmets, and general unclaxers this year was June 7, when the Westchester County Medical Society held forth afternoon and evening at the Briar Hills Golf Club in Briarcliff Manor, says the County *Bulletin*.

There was a golf tournament with "Bill" Van Wie, of Mount Vernon, working to get his second leg on the tremendous Mead Johnson trophy cup. And there were plenty of other prizes to play for.

Tennis was played across the road at the Briarcliff Lodge. There was also soft ball, with beer at first base, and a horseshoe competition—all waged on the premises.

The committee this year specialized on the dinner, which was man-size and juicy, and the after-dinner entertainment was

more scintillating and colossal than could be conceived.

The April meeting of the Westchester County Medical Society was marked by the largest attendance recorded for any meeting of the society in its entire history—nearly 250 members being present. This distinction, remarks the *Bulletin*, was a well-merited tribute to the guest speaker of the evening, Dr Perrin H Long, of Johns Hopkins, whose talk on "The Clinical Use of Sulfanilamide, Sulfapyridine and Allied Compounds" was generally considered a masterpiece on this highly pertinent topic.

Dr Long's paper was discussed formally by Dr Harris W Campbell, of White Plains, from the standpoint of internal medicine, Dr Andrew A Eggston, of Mount Vernon, from the standpoint of pathology, and Dr F Duncan Barnes, of New Rochelle, from the standpoint of pediatrics.

A regular meeting of the New Rochelle Medical Society was held on May 8, at the New Rochelle Hospital. Dr Harold C Ingraham discussed "Gynecologic Problems Met in General Practice."

The American Bronchoscopic Society held its twenty-second annual meeting at the Westchester Country Club in Rye, on May 26. At the morning session, an address was given by the president, Dr John D Kernan, of New York City, followed by a scientific presentation. The first paper was a case report on the "Treatment of a Child Following Ingestion of 'Drano,'" by Dr David H Jones, of Mount Vernon and New York.

A number of case reports and important papers followed.

A regular meeting of the New Rochelle Medical Society was held on April 10, at the New Rochelle Hospital. Dr Fenwick Beekman, attending surgeon at Bellevue and Ruptured and Crippled hospitals, presented a paper on "Reconstruction Plastic Surgery" which was followed by a general discussion.

# Hospital News

## Economy at the Expense of the Mentally Ill

"**M**ISGUIDED efforts at economy," was the label applied by Dr. John R. Ross, Superintendent of the Harlem Valley State Hospital at Wingdale, to state budget slashes aimed at the State Department of Mental Hygiene.

A general lowering of standards and a gradual reversion to the old custodial type of care were in store if the cuts were adopted, he warned.

Citing that his own hospital's budget had been cut by more than a quarter million dollars, Dr. Ross said this would force dismissal of 81 employees.

Dr. Ross said in his prepared statement

"If the proposed legislative budget takes effect, the Department of Mental Hygiene is going to find itself in a very serious situation. Regardless of how the money is allocated, it does not seem possible to absorb such a large cut without gravely affecting the essential services rendered by the various institutions.

"There will be a general lowering of the high standards of care of which New York State has been so proud, and a gradual reversion to the old 'custodial' type of care of the patient. The recovery and improvement rates of mental diseases will lessen and will result in a prolonged period of stay of patients in institutions which, in turn, will increase the costs for the taxpayers. Accidents will undoubtedly increase as they occur in direct proportion to the number of nurses and attendants employed to supervise patients.

### Patients to Suffer

"Most regrettable of all, however, is the lot of the poor, unfortunate patients. It will be a sorry one indeed. Life has not been too kindly to them at best and it would be unjust to heap more misery upon them by denying them modern treatment and what little pleasures they have had."

This and many other similar protests had their effect and a large part of the proposed cut in appropriations for the Department of Mental Hygiene were abandoned. Dr. William J. Tiffany, the commissioner of the department, tells us in a letter how this happy result was brought about. He writes:

"The original legislative budget reduced the amounts recommended by the Governor by \$1,504,140. Of that sum \$1,525,000 was taken from the operating appropriations of the institutions. That is to say, from the funds required for the payment of salaries and wages and for the general maintenance items of food, fuel, clothing, medical supplies, repairs, etc. The balance was taken from appropriations for the central department offices.

"The legislative position seemed to be that with lump-sum appropriations freer use of the funds would be possible and consequently a smaller total would be required in each case. What had not been considered was that every possible economy had been anticipated in the first instance in the preparation of the executive budget which in itself was \$335,283 less than appropriations for the present year for similar items, in spite of estimated increase in patient population of 2,500.

"As soon as possible a survey of the situation was made and protests were filed with the chairmen of the fiscal committees of the legislature. Basing our appeal on the fact that expenditures for food and fuel, which constitute 75% of our maintenance expenditures, were items over which we had very little control, we predicted that the reduction would eventually lead to the elimination of some 1,600 positions in ward and dining room services. Such an eventuality, of course, was something we could not but view with considerable misgiving as the present personnel situation leaves something to be desired.

"Accordingly, we followed up our first protest with a supplemental request for the appropriation of that portion of the reduction which in our opinion represented the reductions on personal service, food, and fuel, a total of \$1,244,703. In this we analyzed the personnel situation in some detail and pointed out the absolute necessity for sufficient appropriations for food and fuel, expressing our desire to cooperate in every way possible in effecting economies without unduly sacrificing the standard of care.

"I am most happy to say that the

### Newsy Notes

An address on "Newer Concepts of Pneumonia" by Dr. Kenneth Goodner of the Rockefeller Institute and installation of new hydrotherapy and physiotherapy equipment featured the rededication on April 20 of the Buffalo City Hospital as Meyer Memorial Hospital.

Dr. Goodner, an authority on pneumonia, spoke in the auditorium before the Erie County Medical Society, Meyer Memorial staff physicians, and other medical men. Dr. Nelson G. Russell presided.

The former City Hospital was renamed last winter, by action of its board of managers approved by the City Council, to honor the late Dr. Edward J. Meyer, for twenty-four years president of the board and a prominent Buffalo physician.

. . .

More than 150 state hospital physicians and psychiatrists gathered at Utica State Hospital on April 28 for a two-day conference. Results of research on the relationship between overindulgence in alcohol and insanity were given in several papers. Findings were obtained in a study of 100 cases.

. . .

Approximately seventy-five attended the annual joint meeting of the Hospital Association of Northeastern New York.

